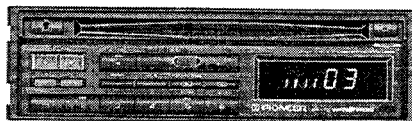


Service Manual

PIONEER
The Art of Entertainment

• DEH-770/UC



ORDER NO.
CRT1354

HIGH-POWER COMPACT DISC PLAYER WITH FM/AM TUNER

DEH-770

UC

DEH-85 US

DEH-760 UC

DEH-660 UC

DEH-630 US

DEH-710 ES

DEH-610 ES

HIGH-POWER COMPACT DISC PLAYER WITH FM/MW/LW TUNER

DEH-770SDK WG

DEH-770 EW

DEH-760SDK WG

DEH-760 EW

COMPACT
disc
DIGITAL AUDIO

Note:

- See the separate manual CX-173 (CRT1161) for the CD mechanism description.
- Refer to the service manual CDX-M100 (CRT1136) for finding circuit description which are not shown in this manual.

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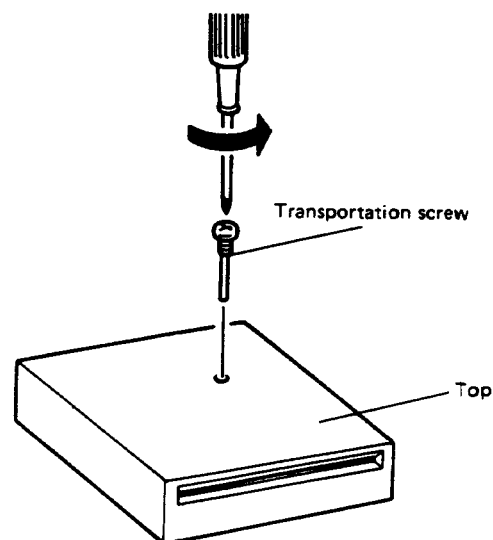
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• CD Player Service Precautions

1. Since these screws protect the mechanism during transport, be sure to affix it when it is transported for repair, etc.
2. For pickup unit (CGY1015) handling, please refer to "Disassembly" (Fig. 4) During replacement, handling precautions shall be taken to prevent an electrostatic discharge (protection by a short pin).
3. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.



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SAFETY INFORMATION (UC, US MODEL)

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

SAFETY INFORMATION (EW MODEL)

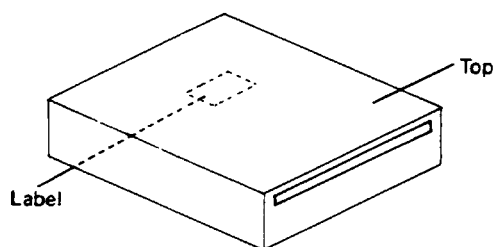
1. Safety Precautions for those who Service this Unit.

- Follow the adjustment steps (see pages 13 through 35) in the service manual when servicing this unit. When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

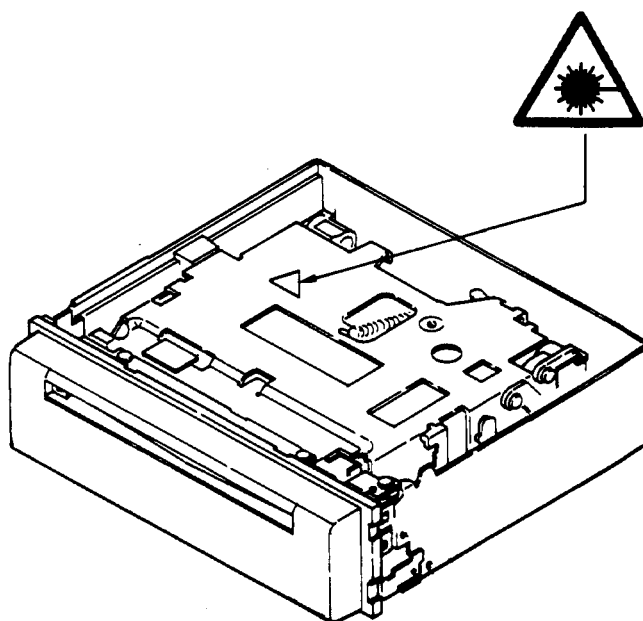
Caution:

- During repair or tests, minimum distance of 13cm from the focus lens must be kept.
- During repair or tests, do not view laser beam for 10 seconds or longer.

- A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.



- The triangular label is attached to the mechanism unit plate unit.



4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.

Wavelength = 780 nanometers

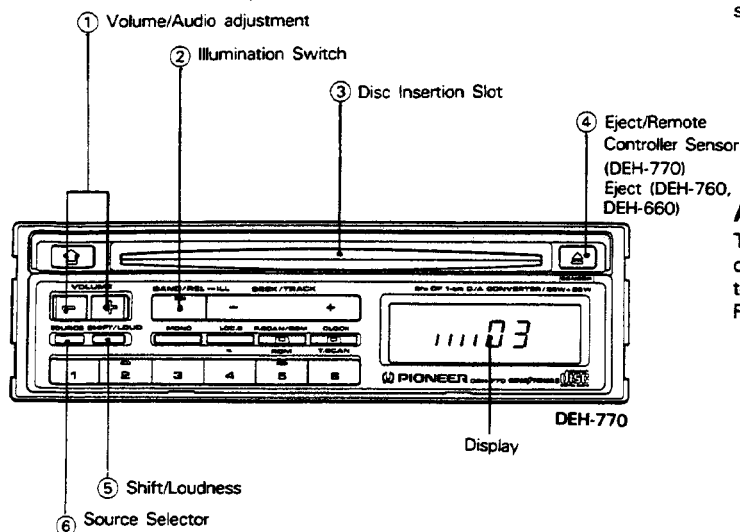
Radiant power = 69.7 microwatts

(Through a circular aperture stop having a diameter of 80 millimeters)

0.55 microwatts

(Through a circular aperture stop having a diameter of 7 millimeters)

1. ADJUSTING VOLUME AND TONE



Adjusting Volume

Pressing the (+) side of button ① increases the volume, while the (-) side decreases it.

V-15

Adjusting the Fader

This function controls the balance between the front and rear speakers of a 4-speaker system. Pressing the (+) side of button ① shifts the balance to the front speakers, while the (-) side shifts it to the rear speakers. For 2-speaker systems, set FAD 0.

FAD 0

Adjusting Bass

Pressing the (+) side of button ① increases bass, while the (-) side decreases bass.

BAS 0

Adjusting Treble

Pressing the (+) side of button ① increases treble, while the (-) side decreases treble.

TRE 0

Adjusting Balance

Pressing the (-) side of button ① shifts the balance to the left speaker, while the (+) side shifts it to the right speaker.

BAL 0

Switching Power On

Tuner

Press button ⑥ to switch the tuner power on. Press button ⑥ again to switch the power off.

CD Player

When a disc is inserted half-way into the disc insertion slot ③ with its label side upward, the disc is automatically loaded and played. To remove the disc, push button ④.

Changing the source

To change the source, push button ⑥ with the disc inserted in the slot. At each press of the button, the source changes as follows: CD Player-Tuner-OFF

Note that if you press button ⑥ to halt playing, the disc resumes playing with about the remainder when set to start again.

Adjusting Audio

When the display indicates disc or tuner, press button ① to adjust the volume. Each press of button ⑤ changes the display and the function of button ① as follows:

Volume→Fader→Bass→Treble→Balance

- When you're adjusting fader, bass, treble, or balance settings, the indicator will stop at the center setting. About 5 seconds after adjustment has been made, the display returns to its previous state.

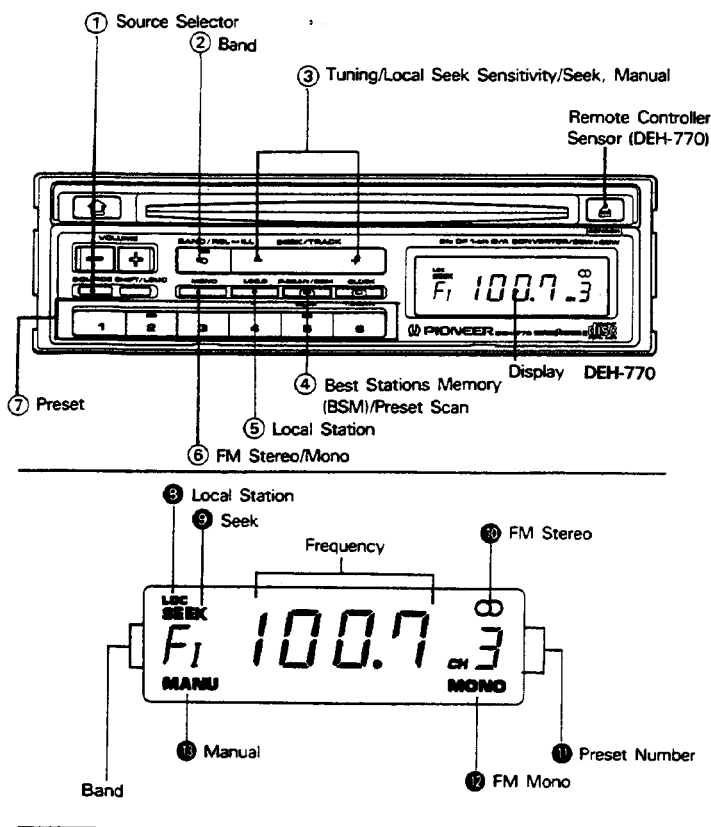
Using the Loudness Function

Press button ⑤ for about two seconds and the "LOUD" indication will appear on the display. This loudness function lets you enhance both high and low frequencies to give a more natural sound at low volumes. To cancel this function, press button ⑤ again for about two seconds.

Switching Illumination Colour

You can select either green or amber for the switch illumination colour. To switch the colour, hold down button ② for two seconds.

2. USING THE RADIO



Preset Scan Tuning

This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press the button ④, and the preset number ⑦ flash. Each station assigned to the buttons in Bank ⑦ will be automatically tuned in for about eight seconds.
2. When you hear a station that you like, press button ④ again to cancel preset scan tuning and remain at that station.

BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in Bank ⑦, from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press button ② and select a band.
2. Hold down button ④. After about two seconds, a "beep" will sound to signal that the BSM search has started. At this time, " - - - - " will flash on the display.



3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in Bank ⑦.
- At the end of the BSM search, the displayed frequency is that assigned to button ① of Bank ⑦.
- If there are fewer than six strong stations in the area, some of the buttons in Bank ⑦ will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
- BSM search may take as long as 30 seconds in areas where there are few strong stations.
- You can cancel BSM search by pressing button ④ again.

Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Press both (+) and (-) sides of button ③ simultaneously to illuminate "MANU" ⑩.
2. Each press of the (+) side of button ③ increases the frequency in 0.2 MHz steps in the FM band, 10 kHz in the AM band. Pressing the (-) side of button ③ decreases the frequency. Holding down either side of button ③ changes the frequency at high speed.

Switching between FM Stereo and Mono

Generally, it is best to allow the "Super Tuner III" function to automatically set the optimum listening conditions. When there is a large amount of noise, you can press button ⑥ for clearer mono reception ("MONO" ⑫ will appear on the display).

Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and two levels for AM to match local conditions.

Changing the Local Seek Sensitivity

1. Use button ② to select a band.
2. Hold down the button ⑤ for more than two seconds, and the display will show you the current local seek sensitivity for about five seconds.



(Example: LOC-2)

1. Press Button ① to switch the radio power on.

2. Press Button ② to select a band.

$F_1 \rightarrow F_{II} \rightarrow F_{III} \rightarrow A$
(FM1) (FM2) (FM3) (AM)

3. Use seek tuning to tune in a frequency.

Confirm that the SEEK indicator ⑧ is shown on the display (if not, press the (+) and (-) sides of button ③ at the same time). Press the (+) side of button ③ to automatically tune in the next higher receivable frequency, and the (-) side for a lower frequency.

4. Adjust volume and tone (see page 5).

5. Assign the tuned frequency to one of the Buttons in Bank ⑦ (preset memory).

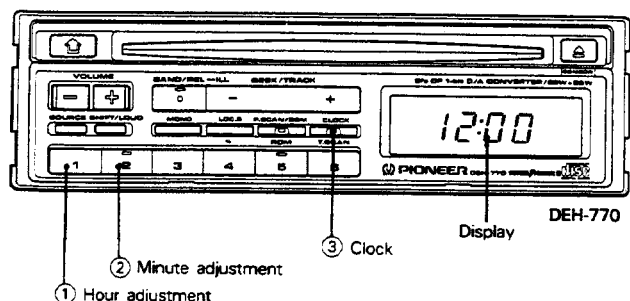
Press and hold down one of the buttons in Bank ⑦ for at least two seconds. The frequency is assigned to the selected button when the preset number ⑦ stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3), and six AM stations can be assigned to the preset memory buttons in Bank ⑦.

6. Once a frequency is assigned to a Button in Bank ⑦, you just need to press that Button to tune it in.

This also causes the number of the button pressed to appear at Position ⑬ on the display.

3. While the local seek sensitivity remains on the display, press the (+) side of button ③ to increase the sensitivity level, and the (-) side to decrease the level as shown below.
- FM: LOC-1⇌LOC-2⇌LOC-3⇌LOC-4
AM: LOC-1⇌LOC-2
- The LOC-4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.
- The display of local seek sensitivity returns to the frequency when about five seconds have elapsed after the change of sensitivity.

3. USING THE CLOCK DISPLAY



Displaying the Time

The clock is displayed while button ③ is depressed. Press button ③ again to turn off the clock display.

- The Time Display functions only when power is on.

Adjusting the Time

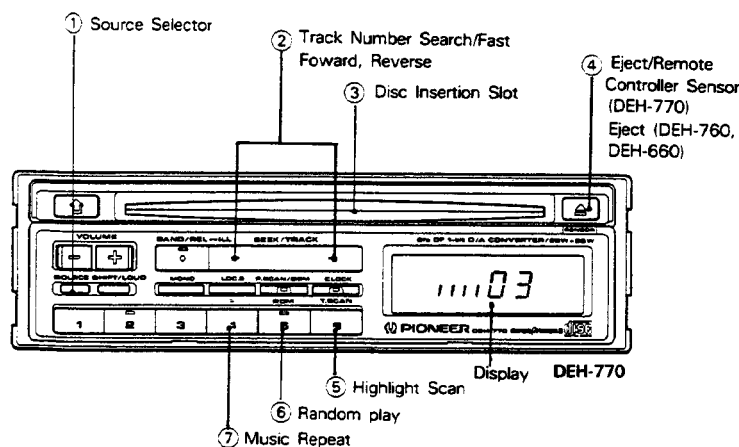
Adjusting the Hours

While holding down button ③, press button ① to adjust the hour setting of the clock. Each press of button ① advances the hour setting by one hour, and holding it down advances the setting at high speed.

Adjusting the Minutes

While holding down button ③, press button ② to adjust the minute setting of the clock. Each press of button ② advances the minute setting by one minute, and holding it down advances the setting at high speed.

4. PLAYING COMPACT DISCS



- 1 When a disc is inserted half-way into the disc insertion slot ③ with its label side upward, the disc is automatically loaded and played.

(Track number ⑤ and disc run ⑧ indications will appear on the display.)

- 2 Use track number search to select a track.

See that no "MANU" ● illuminates on display. If it does, then turn it off by pressing the (+) and (-) sides of Button ② simultaneously. Press the (+) side of button ② to increase the number at position ⑤, or the (-) side to decrease the number. Holding either side of button ② down changes the track number at high speed.

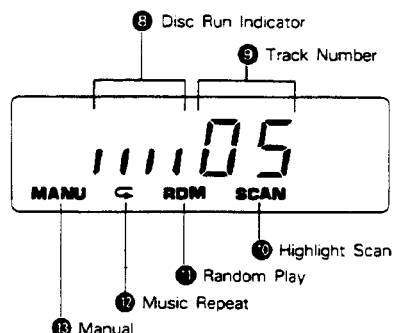
- 3 Adjust volume and tone (see page 5)

- 4 To eject or change the disc, press Button ④.

If an ejected disc is pushed back into the slot, it will be loaded and played again.

Note:

- If a disc can only be inserted halfway, or if the disc does not play after being loaded, something may be wrong with the disc. Eject the disc by pressing button ④, and check it. If it is all right, insert it again.
- Insert the disc with its label (printed) side facing up. If the disc is inserted with the label side facing down, it will not play, and the recorded side may be damaged.
- Do not insert two discs into the slot at the same time. This may cause a malfunction.



Using Highlight Scan

Highlight Scan is designed to enable you to conveniently scan all pieces of music contained in the disc by playing 10 seconds each at your designated point of time after the start of the music. The starting time of play is set at one minute in factory. Therefore, the Highlight Scan begins one minute after the start unless you designate it otherwise.

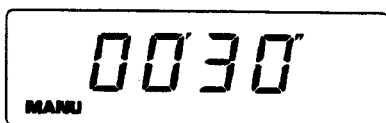
When you do not want to change the factory-set time:

1. Press Button ⑤, and "SCAN" ④ will illuminate.
2. The contained pieces of music will be played in sequence for 10 seconds each one minute after the beginning.
3. Press Button ⑤ again when your selected piece comes, and it will continue to play. At this point, the Highlight Scan discontinues to operate.
- The previous function automatically resumes when a piece of music with which Highlight Scan began returns.

Changing the Starting Time of Highlight Scan

When you want to set the starting time of the Highlight Scan to 30 seconds:

1. Press Button ②, (+) and (-) sides simultaneously, and "MANU" ③ will illuminate and time numerals will be displayed.
2. Keep pressing either (+) or (-) side of Button ② until the numerals reaches 30.



3. Hold down Button ⑤ for two or more seconds, and "SCAN" ④ will illuminate and the Highlight Scan will begin 30 seconds after the start of the next piece of music.

- The starting time of Highlight Scan can be designated at ten or tens of seconds only. A tenth or tenths of seconds can be disregarded.
- If a piece of music ends before your designated point of time at which Highlight Scan starts, the scanning is performed for its beginning 10 seconds.
- If a piece of music lasts less than 10 seconds, so does the Highlight Scan.
- You may wish to change the starting time longer without suspending the function. You may do so, however, only to a relatively long-playing piece of music because, as a matter of course, the time cannot be set so as to come after the end of the music.

Using Random Play

This function uses the built-in microprocessor to randomly play tracks from the disc.

1. Press button ⑥. "RDM" ① will appear on the display. Once the current track has been played, the microprocessor will randomly select the next track.
2. To cancel random play, press button ⑥ again.

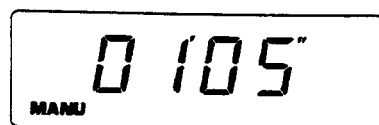
Using Music Repeat

This function lets you listen to a track as many times as you wish.

1. While the track you want to repeat is playing, press button ⑦. "REP" ② will appear on the display. Now the track will repeat until the music repeat function is canceled.
2. To cancel music repeat, press button ⑦ again.
- When music repeat is not operational, the whole disc will be played repeatedly.

Using Fast Forward and Reverse

1. Press simultaneously both (+) and (-) sides of the button ② "MANU" ③ will appear on the display. At this time the display will show the amount of elapsed disc play time.

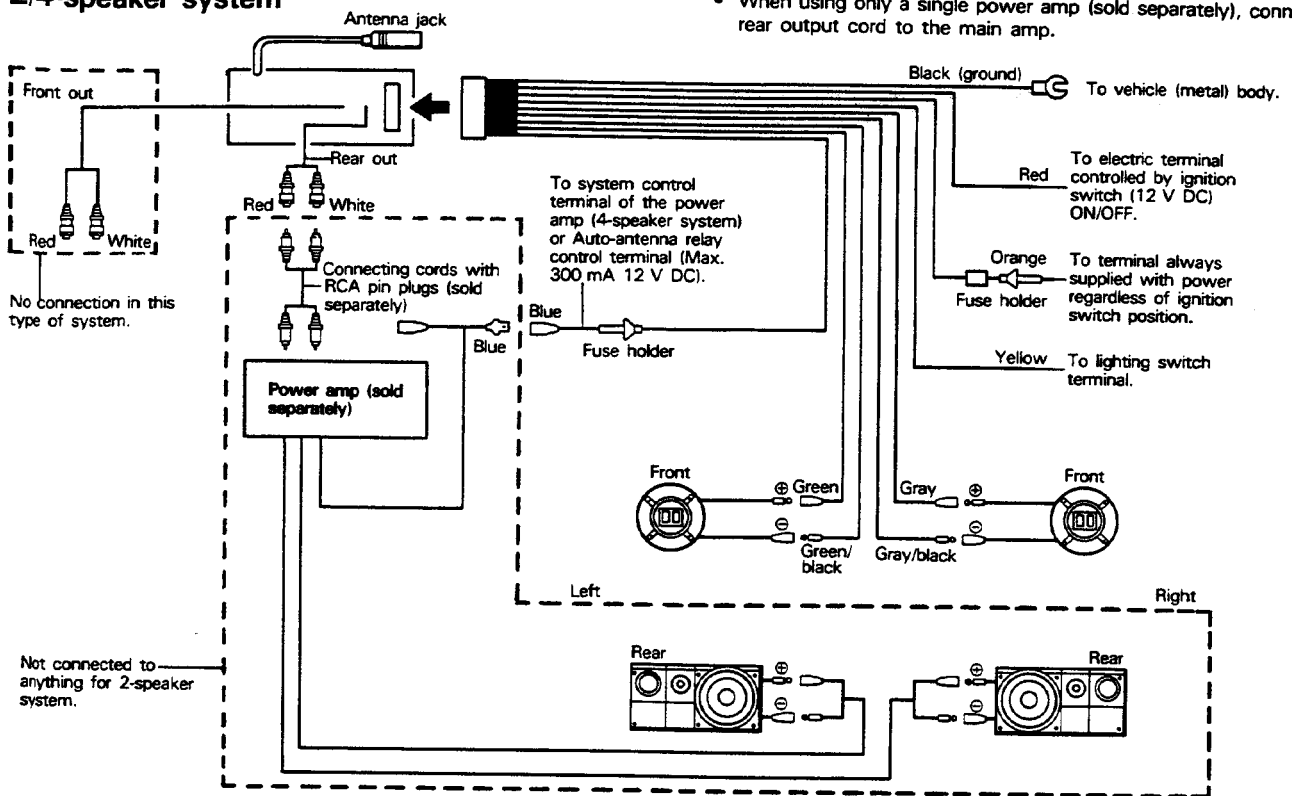


2. Press the (+) side of button ② for fast forward, and the (-) side for reverse.
- Sound is output during fast forward and reverse operations.
- When a disc in which there are several seconds between tracks is used, the amount of elapsed disc-play time is shown, for example, as -0*02 and -0*01.

5. CONNECTING THE UNITS

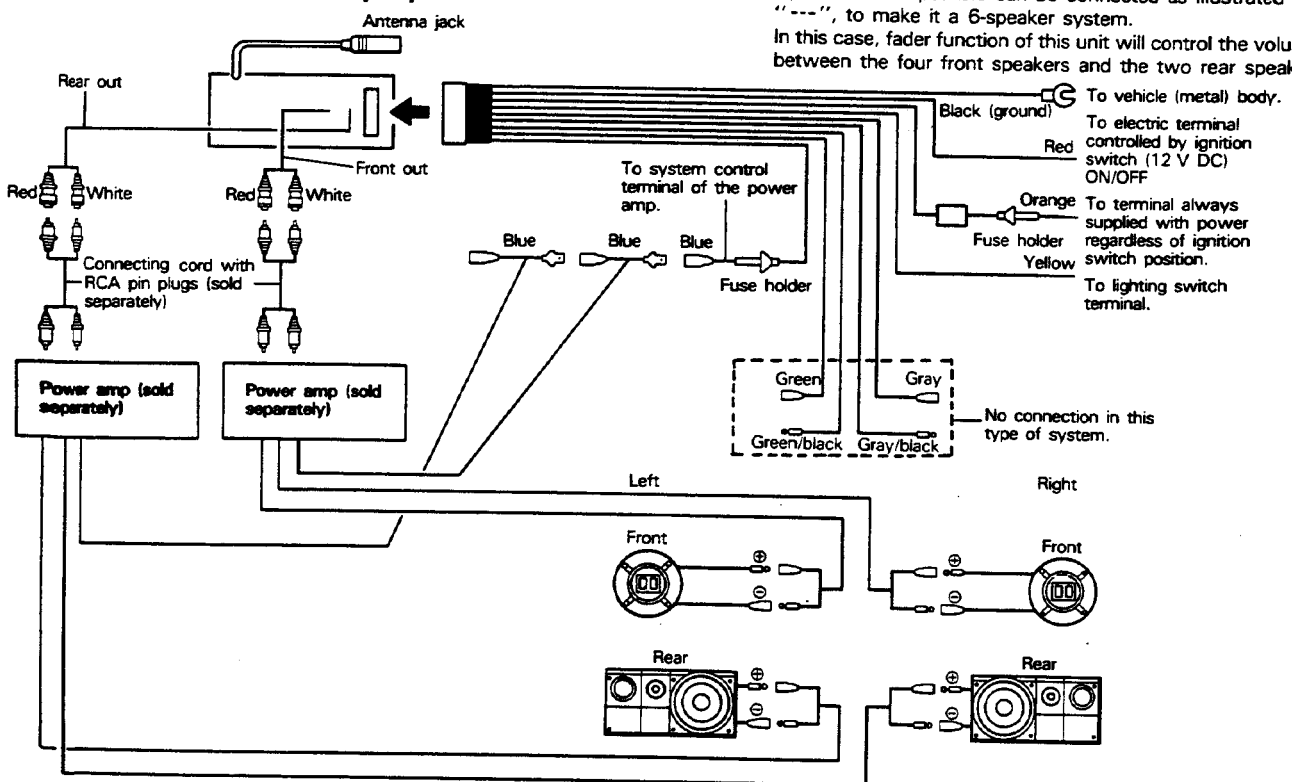
- Before making final connections, make temporary connections then operate the unit to check for any connecting cord problems.
- Refer to the owner's manual for details on connecting the various cords of the power amp and other units, then make connections correctly.
- Be sure to connect the memory power supply lead (orange) to a terminal that is always supplied with power regardless of the vehicle's ignition switch position. If this connection is made incorrectly or is forgotten, the unit will not work at all.
- Don't pass the orange lead through a hole into the engine compartment to connect to the battery. This will damage the lead insulation and cause a very dangerous short.
- Since a unique BPTL circuit is employed, never wire so the speaker leads are directly grounded or the left and right speaker ⊖ leads are common.
- Speakers connected to this unit must be high-power types possessing minimum rating of 25W and impedance of 4 to 8 ohms. Connecting speakers with output and/or impedance values other than those noted here can damage the speakers.

2/4-speaker system



- When using only a single power amp (sold separately), connect the rear output cord to the main amp.

External 4 channel amp system



- Optional front speakers can be connected as illustrated with in the "---", to make it a 6-speaker system. In this case, fader function of this unit will control the volume balance between the four front speakers and the two rear speakers.

6. SPECIFICATIONS

General (DEH-770, 760/UC, DEH-85/US)

Power source	14.4 V DC (10.8—15.6 V allowable)
Grounding system	Negative type
Max. current consumption	5.5 A
Dimensions (chassis)	178 (W) × 50 (H) × 155 (D) mm [7 (W) × 2 (H) × 6-1/8 (D) in.]
(nose)	170 (W) × 46 (H) × 14 (D) mm [6-3/4 (W) × 1-3/4 (H) × 1/2 (D) in.]
Weight	1.6 kg (3.5 lbs)

General (DEH-660/UC, DEH-630/US, DEH-610/ES)

Power source	14.4 V DC (10.8—15.6 V allowable)
Grounding system	Negative type
Max. current consumption	5.5 A
Dimensions (chassis)	178 (W) × 50 (H) × 155 (D) mm [7 (W) × 2 (H) × 6-1/8 (D) in.]
(nose)	170 (W) × 46 (H) × 12 (D) mm [6-3/4 (W) × 1-3/4 (H) × 1/2 (D) in.]
Weight	1.6 kg (3.5 lbs)

General (DEH-710/ES)

Power source	14.4 V DC (10.8—15.6 V allowable)
Grounding system	Negative type
Max. current consumption	5.5 A
Dimensions (chassis)	178 (W) × 50 (H) × 155 (D) mm
(nose)	170 (W) × 46 (H) × 14 (D) mm
Weight	1.6 kg

General (DEH-770SDK, 760SDK/WG, DEH-770, 760/EW)

Power source	14.4 V DC (10.8—15.6 V allowable)
Grounding system	Negative type
Max. current consumption	5.5 A
Dimensions (chassis)	180 (W) × 50 (H) × 155 (D) mm
(front face)	188 (W) × 58 (H) × 14 (D) mm
Weight	1.6 kg

Amplifier (UC, US model)

Continuous power output is 10 W per channel min. into 4 Ω , both channels driven 50 to 15,000 Hz with no more than 5% THD.

Max. power output 25 W + 25 W (EIAJ)

Load impedance 4 Ω (4–8 Ω allowable)

Max. output level/output impedance
(pre out) 500 mV/1 k Ω

Tone controls (bass) ± 10 dB (100 Hz)
(treble) ± 10 dB (10 kHz)

Loudness contour +12 dB (100 Hz), +7 dB (10 kHz)
(volume: -30 dB)

Amplifier (ES model)

Max. power output	25 W + 25 W (EIAJ)
Continuous power output	11 W x 2 (1% dist. at 1 kHz)
Continuous power output is 10 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.	
Load impedance	4 Ω (4—8 Ω allowable)
Max. output level/output impedance (pre out)	500 mV/1 k Ω
Tone controls (bass)	± 10 dB (100 Hz)
(treble)	± 10 dB (10 kHz)
Loudness contour	+ 12 dB (100 Hz), + 7 dB (10 kHz)
	(volume: -30 dB)

Amplifier (WG, EW model)

Max. power output	25 W + 25 W (EIAJ)
Continuous power output	11 W + 11 W (1% dist. at 1 kHz)
Load impedance	4 Ω (4–8 Ω allowable)
Nominal output level/output impedance (pre out)	500mV/1k Ω
Tone controls (bass)	± 10 dB (100 Hz)
(treble)	± 10 dB (10 kHz)
Loudness contour	+ 12 dB (100 Hz), + 7 dB (10 kHz) (volume: -30 dB)

CD player (UC, US model)

System	Compact disc audio system
Usable discs	Compact disc
Signal format	Sampling frequency: 44.1 kHz
	Number of quantization bits: 16; linear
Frequency characteristics	5—20,000 Hz (± 1 dB)
Signal-to-noise ratio	94dB(1 kHz) (IHF-A network)
Dynamic range	90 dB (1 kHz)
Number of channels	2 (stereo)

CD player (WG, EW, ES model)

System	Compact disc audio system
Usable discs	Compact disc
Signal format	Sampling frequency: 44.1 kHz
	Number of quantization bits: 16; linear
Frequency characteristics	5—20,000 Hz (± 1 dB)
Signal-to-noise ratio	94 dB (1 kHz) (IEC-A network)
Dynamic range	90dB(1 kHz)
Number of channels	2 (stereo)

FM tuner (UC, US model)

Frequency range	87.9—107.9 MHz
Usable sensitivity	11 dBf (1.0 μ V/75 Ω , mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 μ V/75 Ω , mono)
Signal-to-noise ratio	70 dB (IHF-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30—15,000 Hz (\pm 3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)
Selectivity	70 dB (2ACA) (\pm 400 kHz)
Three-signal intermodulation (desire signal level)	50 dBf
	(two undesire signal level: 110 dBf)

Three-signal intermodulation
(desire signal level) (DEH-630/US) 55 dBf
(two undesire signal level: 110 dBf)

AM tuner (UC, US model)

Frequency range 530—1,710 kHz
Usable sensitivity 18 μ V (25 dB) (S/N: 20 dB)
Selectivity 50 dB (\pm 10 kHz)

MW tuner (WG, EW model)

Frequency range 531—1,602 kHz
Usable sensitivity 18 μ V (25 dB) (S/N: 20 dB)
Selectivity 50 dB (\pm 9 kHz)

LW tuner (WG, EW model)

Frequency range	153—281 kHz
Usable sensitivity	30 μ V (30 dB) (S/N: 20 dB)
Selectivity	50 dB (± 9 kHz)

FM tuner (WG, EW, ES model)

Frequency range	87.5–108 MHz
Usable sensitivity	11 dBf (1.0 μ V/75 Ω , mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 μ V/75 Ω , mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30–15,000 Hz (\pm 3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

AM tuner (ES model)

Frequency range	531—1,602 kHz (9 kHz)
	530—1,710 kHz (10 kHz)
Usable sensitivity	18 μ V (25 dB) (S/N: 20 dB)
Selectivity	50 dB (± 9 kHz)
	50 dB (± 10 kHz)

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

7. DISASSEMBLY

● Removing the Case

1. Insert and turn a flat screwdriver to remove the case.
2. Raise the case to remove.

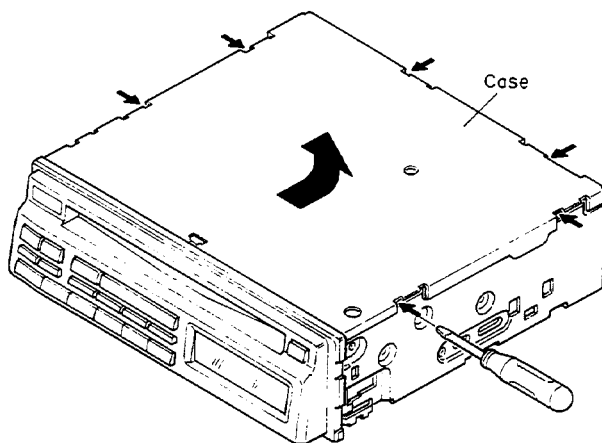


Fig. 1

● Removing the Grille Assy (DEH-660/UC, 630/US, 610/ES)

1. Press the tabs at three locations indicated by arrows, and then pull out the grille assy.
2. Disconnect the connector.

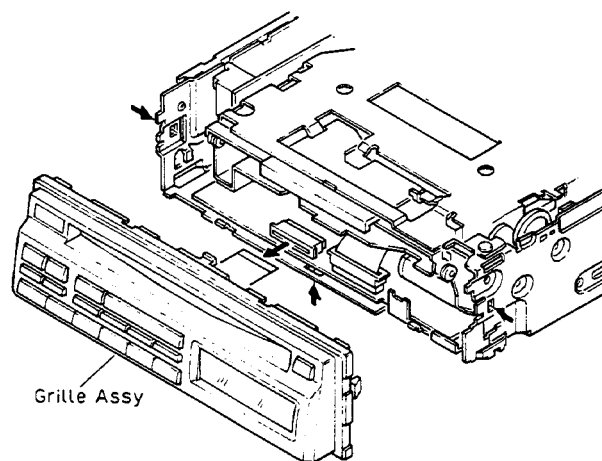


Fig. 2-2

● Removing the Grille Assy (DEH-770/UC, EW, 760/UC,EW,85/US, 710/ES, 770SDK, 760SDK/WG)

1. Press the tabs at three locations indicated by arrows, and then pull out the grille assy.
2. Disconnect the two connectors.

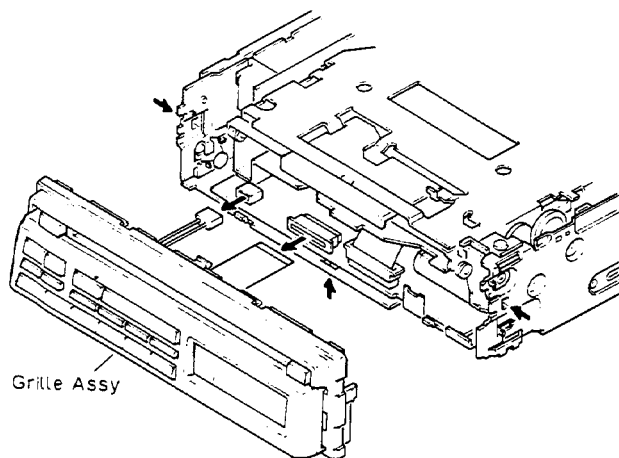


Fig. 2-1

● Removing the Display Unit (DEH-770/US, EW, 760/UC,EW,85/US, 710/ES, 770SDK, 760SDK/WG)

1. Remove the four screws, and then remove the grille.
2. Pull out the display unit.

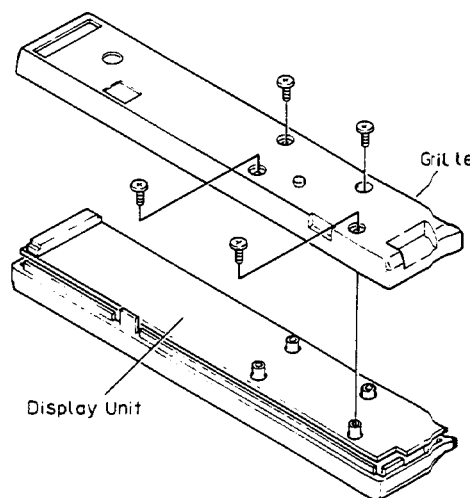


Fig. 3

● Removing the CD Mechanism Unit

1. Remove the four screws.
2. Disconnect the two connectors, and then remove the CD mechanism Unit.

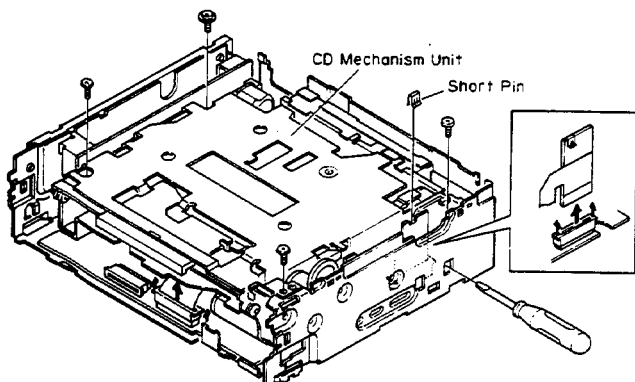


Fig. 4

NOTE: When remove the flexible p.c. board, always insert a shorting pin or insert an inter-pattern short (jumper) before disconnecting the flexible p.c. board from the connector.

● Removing the CD Tuner Unit

1. Remove the screw D, and then remove the holder.
2. Remove the screw E and F.
3. Remove the screw G, and then remove the holder.
4. Unbend the tabs at five locations indicated by arrows until straight.
5. Raise up on CD tuner unit to remove it from chassis unit.

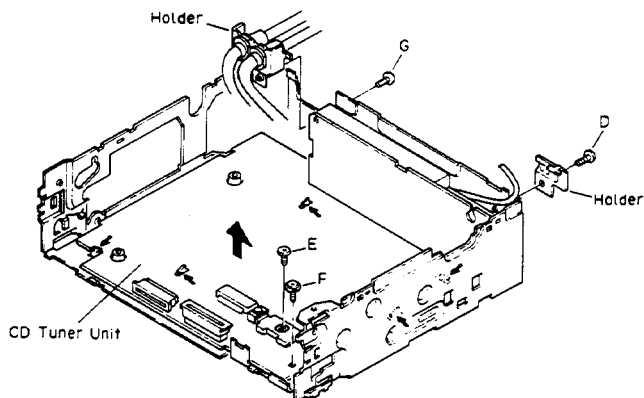


Fig. 6

● Removing the Amp Unit

1. Remove the four screws A, and the four screws B.
2. Remove the amp unit.

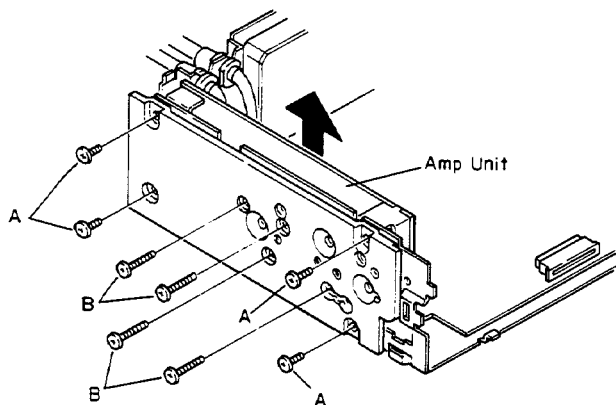


Fig. 5

8. ADJUSTMENT

1) Precautions

• This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to pin No.21 (approx. 2.5V) of IC 351 (CXA1081Q) instead of GND. (VC or VREF at test point)

If VC and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to VC and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to VC with the channel 2 negative probe connected to GND.

And since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident VC comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Test mode starting procedure
Turn ACC and Back-up ON while pressing the VOL+ and VOL- keys together.
- Test mode cancellation
Turn ACC and Back-up OFF and then back ON.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.

*During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.

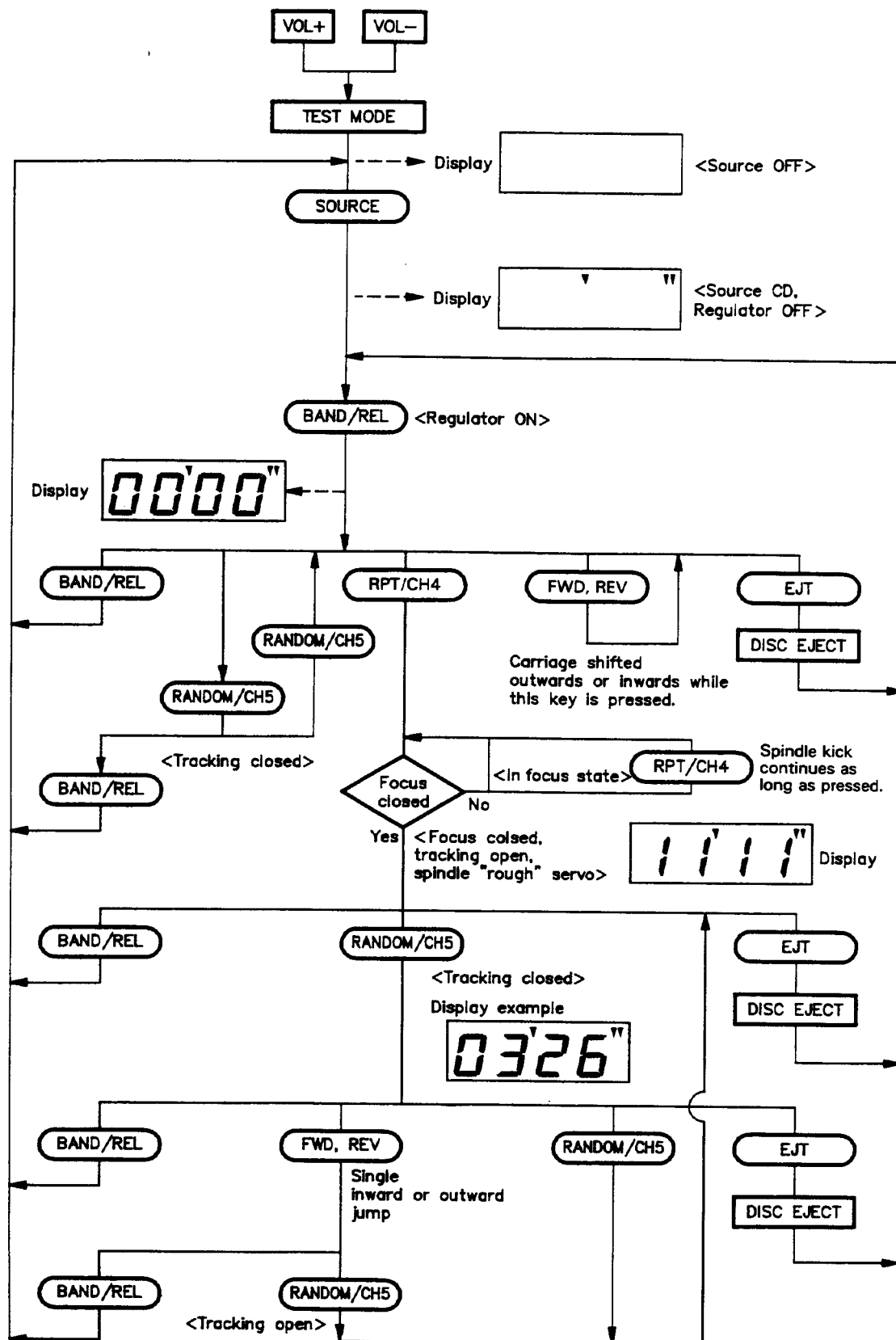
*The unit will not load a disc.

When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

Key	Function
BAND	Regulator ON/OFF
FWD	FWD Kick
REV	REV Kick

Key	Function
RANDOM/CH5	Tracking close
RANDOM/CH5	Tracking open
RPT/CH4	Focus close

- **Flow Chart**



2) Adjustment Point

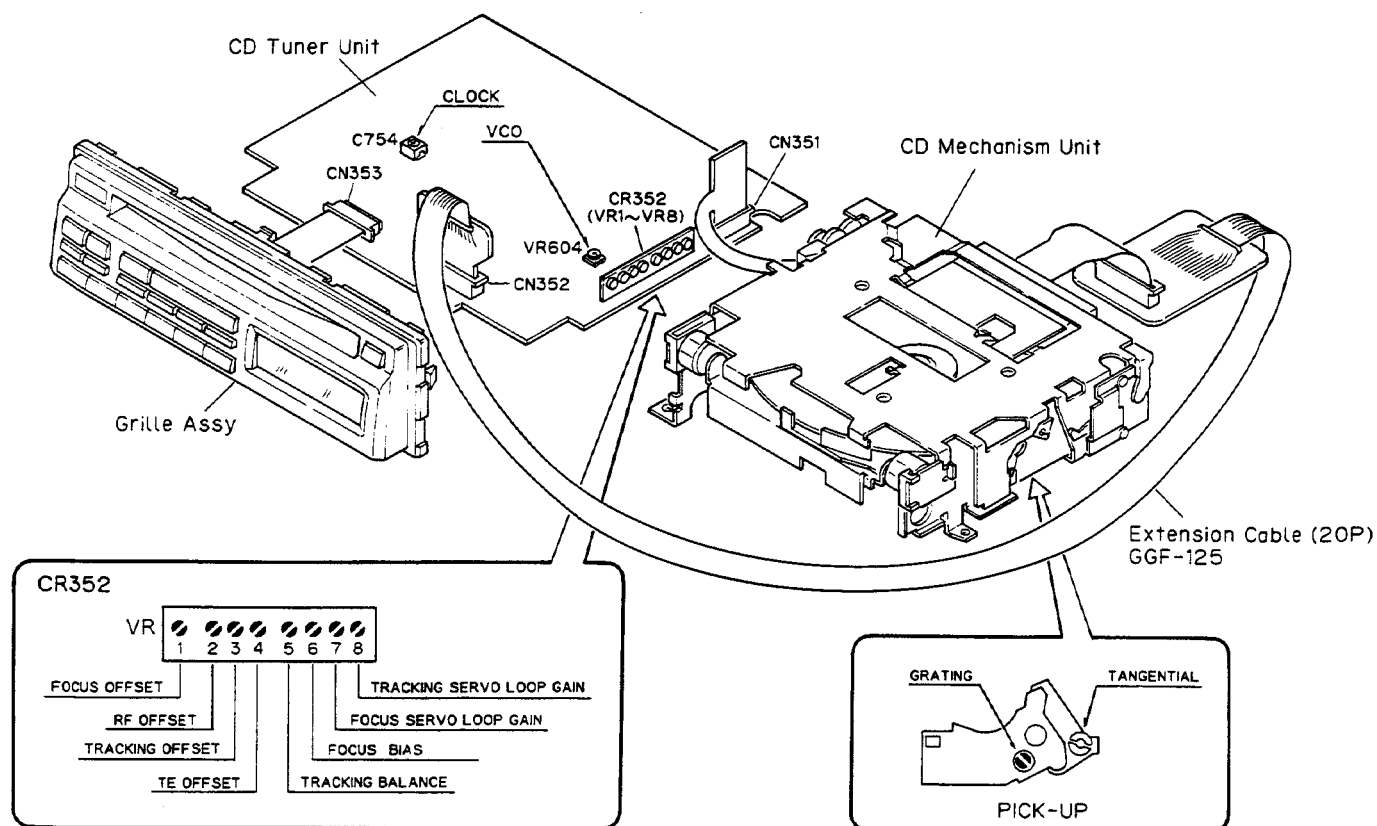
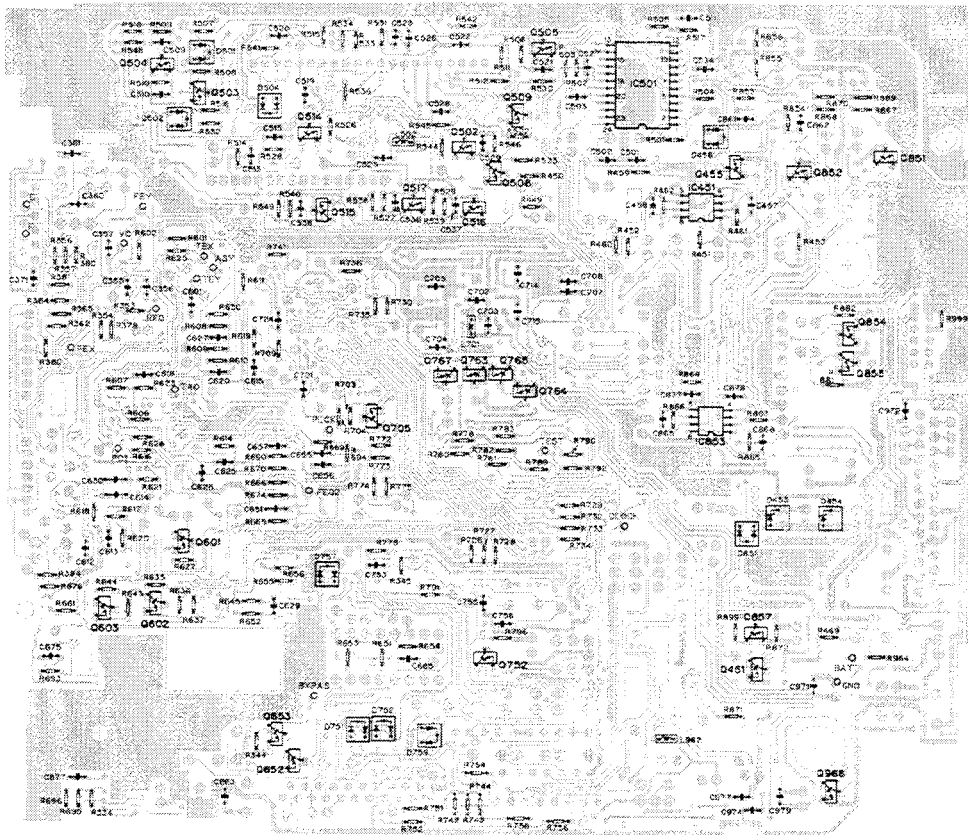
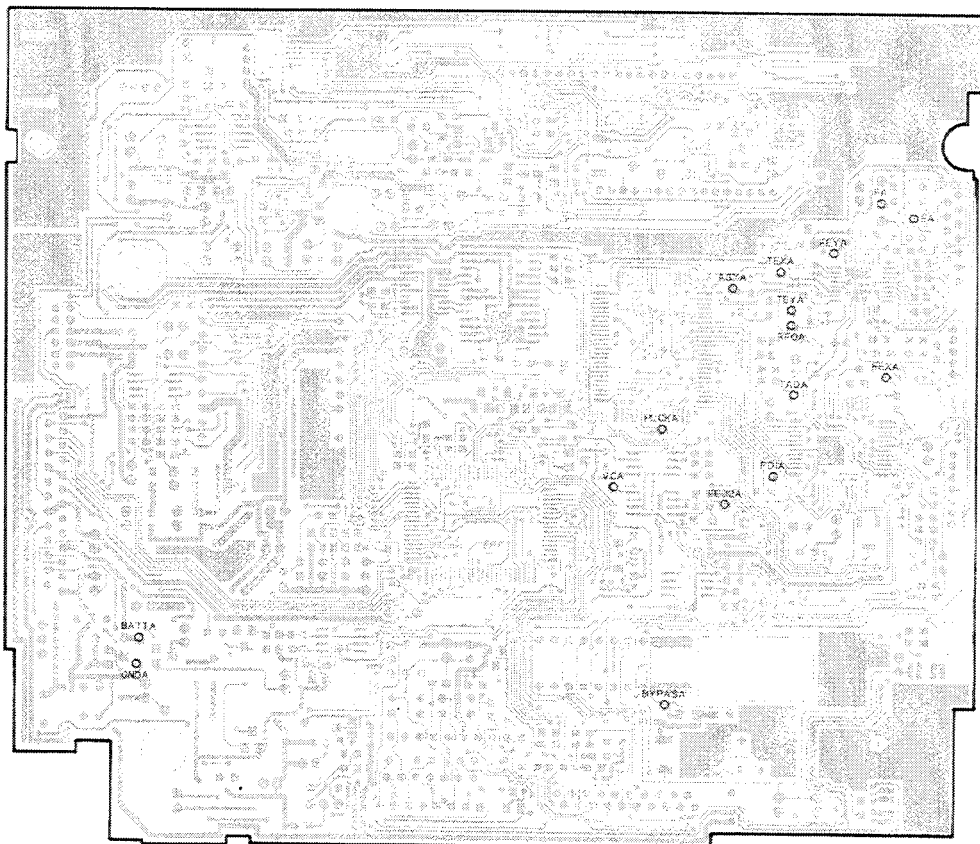


Fig. 7

- Test Point
CD Tuner Unit (Foil side)



CD Tuner Unit (Parts mounted side)



8.1 Focus Offset Adjustment

● Purpose: To adjust the electrical offset of the focus amplifier to zero.

● Maladjustment symptoms: No focus closing

● Measuring equipment/
jigs

• Multi-meter or oscilloscope

● Measuring point

• FE02

● Test disc and setting

• No Disc

• Test mode

● Adjustment position

• VR1

CD TUNER UNIT

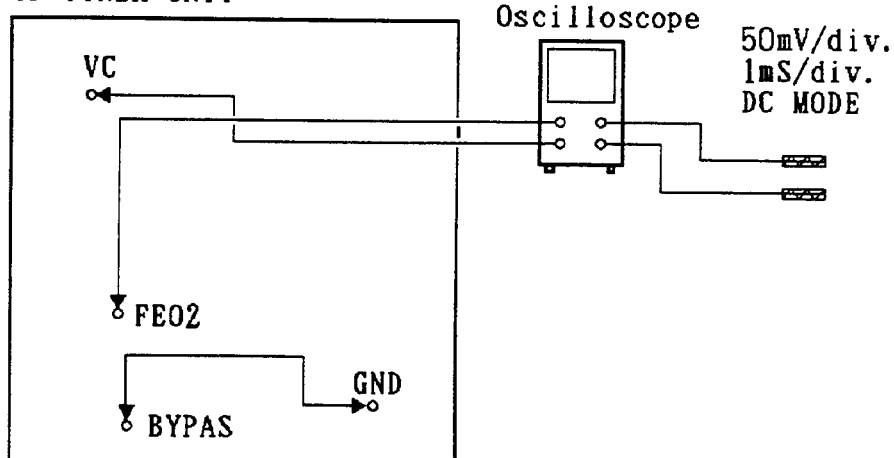


Fig. 9

(This P.C. Board connection diagram is viewed from the foil side.)

Adjustment Procedure

1. Connect BYPAS to GND.
2. Switch regulator ON.
3. Using VR1, adjust the FE02 DC voltage in reference to VC to a value of $0 \pm 25\text{mV}$.

8.2 VCO Free Run Frequency Adjustment

- **Purpose:** To adjust the EFM decoder reference clock free-run frequency to a suitable value.
- **Maladjustment symptoms:** Spindle lock not possible, distorted sound or no sound at all

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Measuring equipment/ jigs ● Measuring point ● Test disc and setting ● Adjustment position | <ul style="list-style-type: none"> • Frequency counter • Pin No. 70 (PLCK) of IC701 (CXD1167Q) • No Disc • Test mode • VR604 |
|--|--|

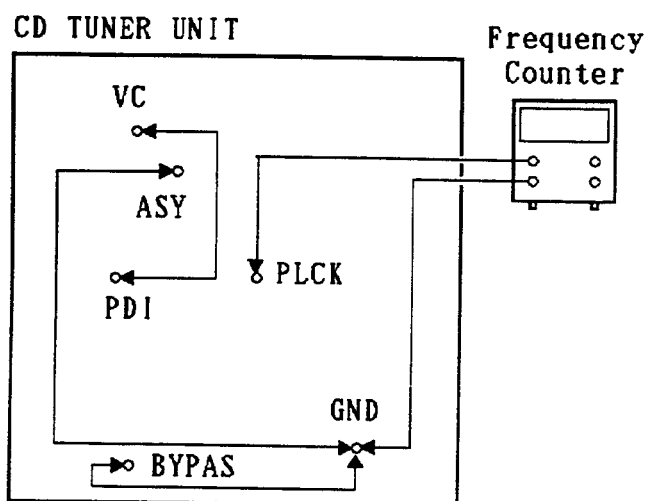


Fig. 10

Adjustment Procedure

1. Connect pin No. 7 (TP ASY) of IC351 to GND.
Connect BYPAS to GND.
 2. Connect pin No. 1 (TP VC) of IC601 to pin No. 28 (TP PDI).
 3. Switch regulator ON while in test mode.
 4. Connect the frequency counter to pin No. 70 (TP PLCK) of IC701 (CXD1167Q).
 5. Adjust VR604 to obtain a frequency of $4.45 \pm 0.01\text{MHz}$.
 6. Switch regulator OFF.
 7. Disconnect the leads connecting TP VC to TP PDI, and TP ASY to GND.
- Note: Connect TP VC and TP PDI with leads kept as short as possible.
- Note: Connect the frequency counter ground to TP GND as shown in the figure.

8.3 RF Offset Adjustment

●Purpose: To adjust the RF amplifier offset to a suitable value

●Maladjustment symptoms: Focus closure fails readily

●Measuring equipment/
jigs

• Oscilloscope

●Measuring point

• RFO

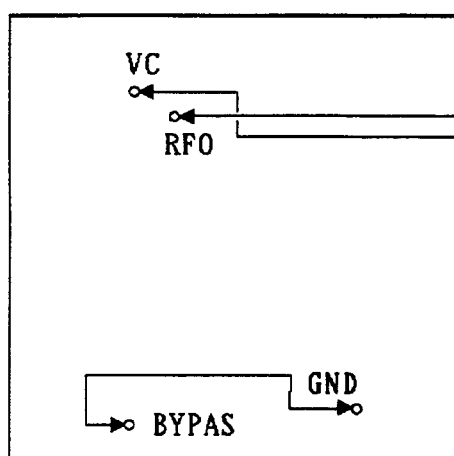
●Test disc and setting

• No Disc • Test mode

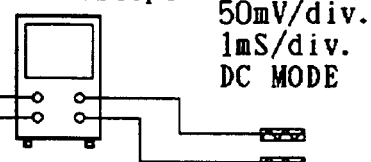
●Adjustment position

• VR2 (RFO)

CD TUNER UNIT



Oscilloscope



When using a multi-channel oscilloscope, do not connect the other negative probe to ground.

Fig. 11

Adjustment Procedure

1. Connect BYPAS to GND.
2. Switch regulator ON.
3. Using the oscilloscope, measure the RFO DC voltage in reference to VC, and adjust VR2 (RFO) to obtain a reading of $+40 \pm 10\text{mV}$.

8.4 Tracking Offset Adjustment

● Purpose: To adjust the electrical offset of the tracking amplifier to zero

● Maladjustment symptoms: Search times too long, carriage run-away

● Measuring equipment/
jigs

• Oscilloscope

● Measuring point

• TAO low-pass filter output

● Test disc and setting

• No Disc • Test mode

● Adjustment position

• VR3 (T0)

CD TUNER UNIT

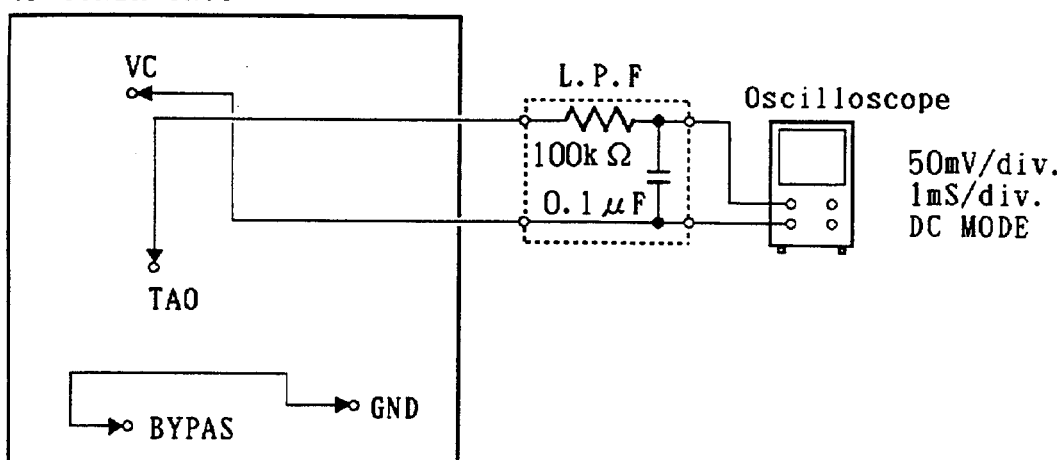


Fig. 12

Adjustment Procedure

1. Insert a low-pass filter between TAO and VC.
2. Check that BYPAS is connected to GND.
3. Switch regulator ON.
4. Using the oscilloscope, measure the TAO LPF output DC voltage in reference to VC, and adjust VR3 (T0) to obtain a reading of $0 \pm 25\text{mV}$.

The low-pass filter may be left in place for later adjustments.

8.5 TE Offset Adjustment-1

●Purpose: To adjust the electrical offset of the tracking servo to zero.

●Maladjustment symptoms: Search times too long, carriage run-away

●Measuring equipment/
jigs

• DC voltmeter

●Measuring point

• TAO low-pass filter output

●Test disc and setting

• No Disc • Test mode

●Adjustment position

• VR4 (TE0)

CD TUNER UNIT

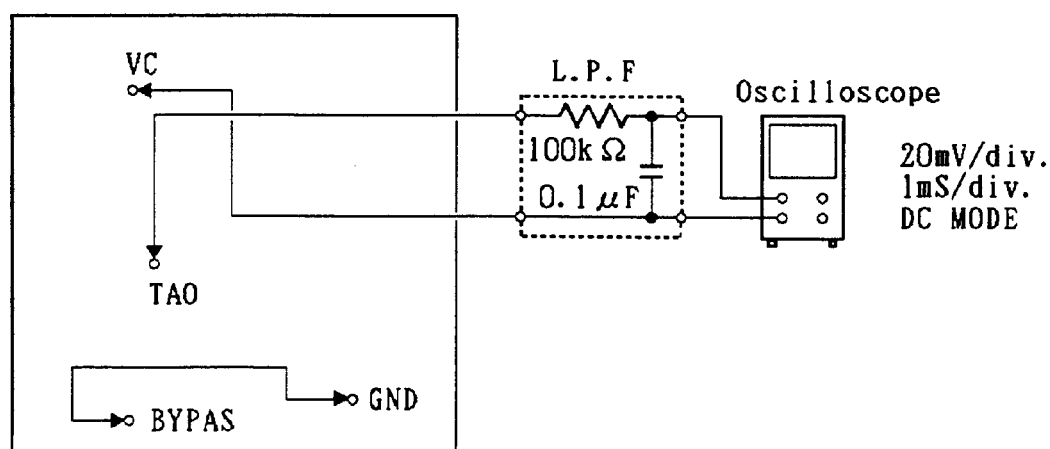


Fig. 13

Adjustment Procedure

1. Check that BYPAS is connected to GND.
2. Switch regulator ON while in test mode.
3. Press the **RANDOM/CH5** key to close tracking.
4. Using VR4 (TE0), adjust the TAO LPF output DC voltage in reference to VC to a value of 0 ± 10 mV.
5. Switch regulator OFF.

8.6 Tracking Balance Adjustment - I

- Purpose: To adjust the tracking servo offset to zero.
- Maladjustment symptoms: Search times too long, poor playability, carriage run-away

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Measuring equipment/
jigs ● Measuring point ● Test disc and setting ● Adjustment position | <ul style="list-style-type: none"> • Oscilloscope • TEY (Tracking error signal), low-pass filter output • SONY TYPE 4 (or TYPE 3) • Test mode • VR5 (T. BAL) |
|--|--|

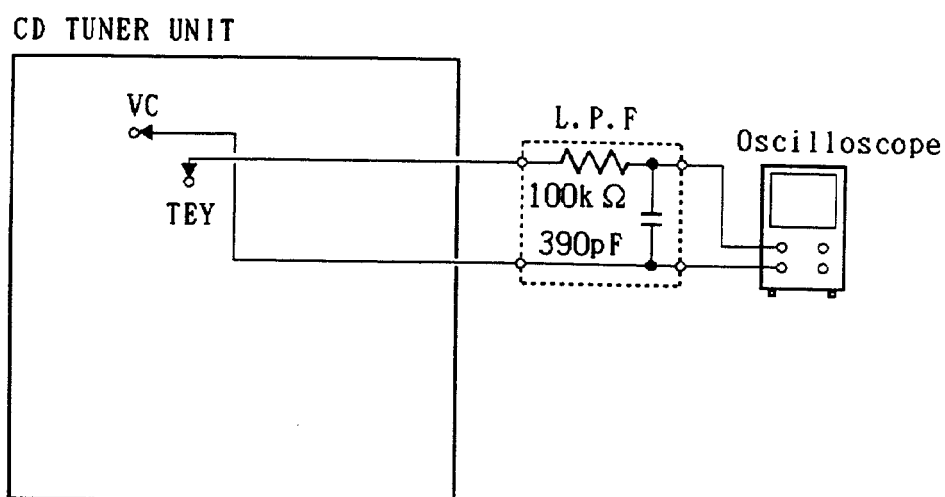
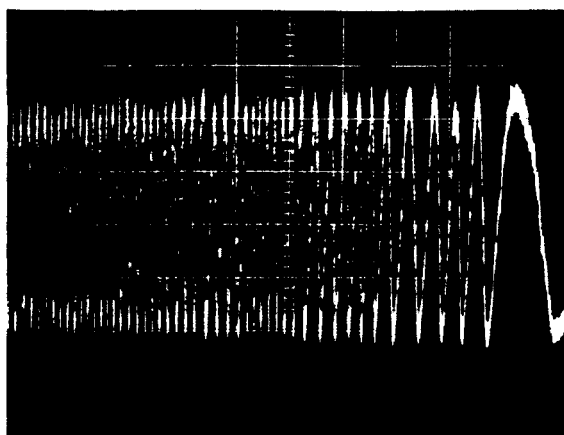


Fig. 14

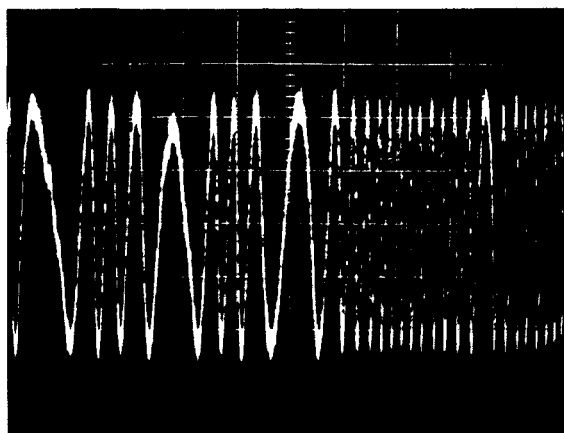
Adjustment Procedure

1. After checking that regulator is OFF, connect the low-pass filter as shown in the diagram.
 2. Disconnect BYPAS from ground.
 3. Set the test disc (SONY TYPE 4). Switch regulator ON.
 4. Using the FWD or REV key, move the pick-up to about the center of the signal surface.
 5. Press the RPT/CH4 key to close focus.
 6. Using an oscilloscope, observe the TEY signal in respect to VC. Then adjust VR5 (T. BAL) to set the positive and negative amplitudes to the same levels. (See Fig. 15-17)
 7. Switch the power OFF.
- The low-pass filter may be left in place for later adjustments.



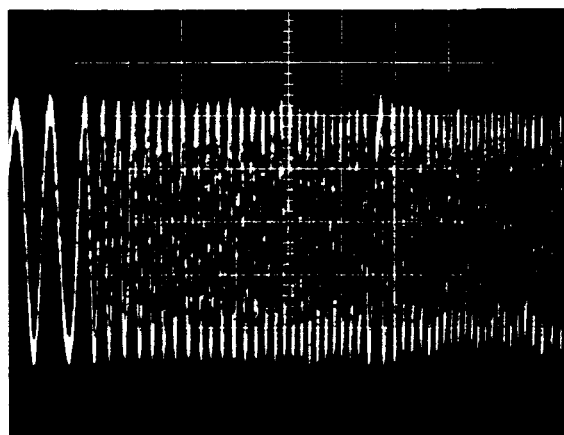
+ 5% NG

Fig. 15



± 0% OK

Fig. 16



- 5% NG

Fig. 17

10ms/div.
0.2V/div.
DC Mode

8.7 Tangential Skew Check

- Purpose: To check whether tangential skew has been misaligned or not when replacing the pick-up unit.
- Maladjustment symptoms: No disc playback; track jumping

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Measuring equipment/
jigs ● Measuring point ● Test disc and setting ● Adjustment position | <ul style="list-style-type: none"> • Oscilloscope, screwdriver • RFO • SONY TYPE 4 (or TYPE 3) • Normal mode • Pick-up tangential adjustment screw |
|--|--|

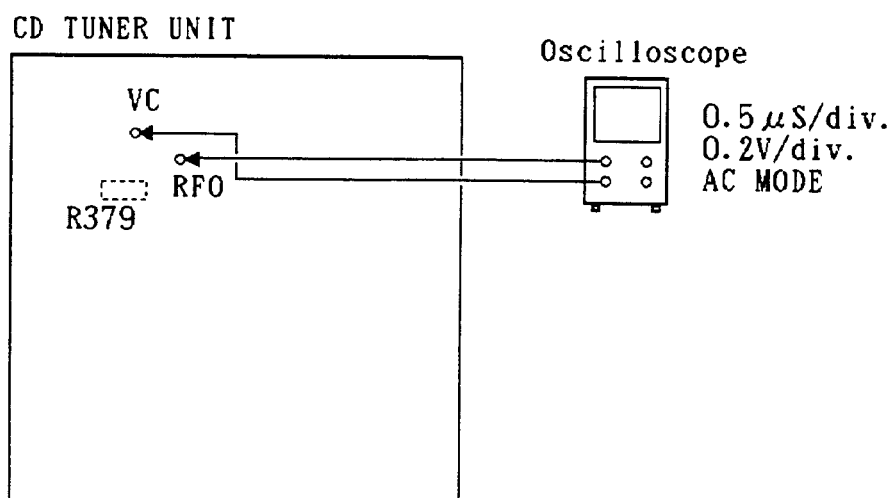
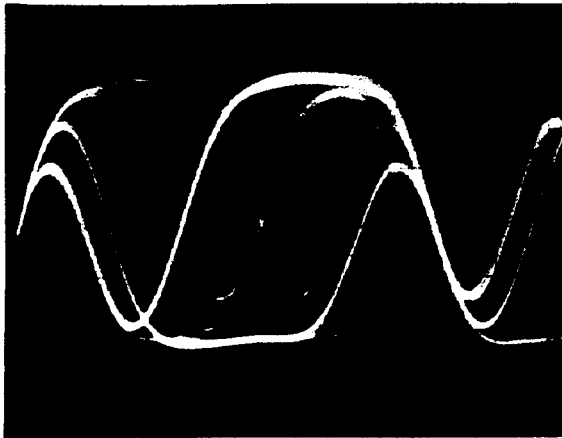


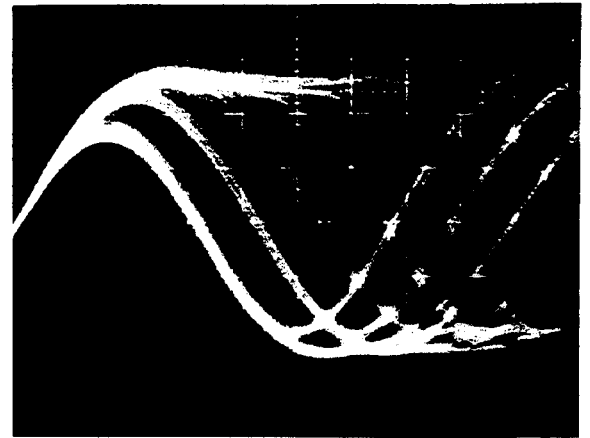
Fig.18

Adjustment Procedure (with R379 removed)

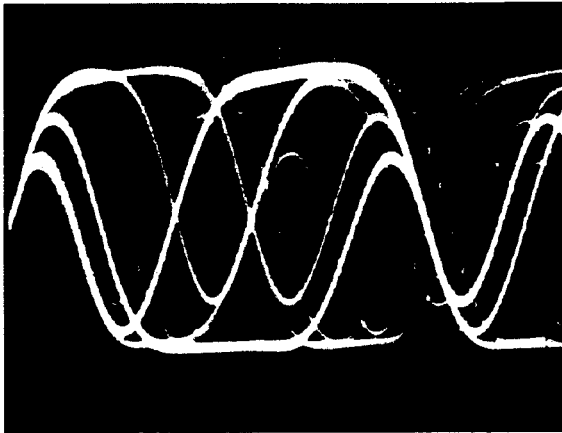
1. Remove R379 (but reconnect after completing adjustment).
2. Play tune TNO 7 in normal mode. (TYPE 3:TNO 23)
3. Check that the valley at the 11T section of the RF waveform is flat.
4. If out of adjustment, readjust to obtain a flat RF waveform. (See Fig.19-24) Take care not to knock the pick-up with the screwdriver at this stage. (This kind of accident can result in loss of focus.)
5. Switch the power OFF and reconnect R379.
6. Apply "screw-lock" to the tangential adjustment screw.
7. After adjusting tangential skew, also adjust the grating.
8. If tangential skew is seriously out of adjustment, carriage stopping and run-away tend to occur in normal mode. In this case,
 - a) Switch to test mode.
 - b) Shift the pick-up to signal surface center using FWD or REV key.
 - c) Press the RPT/CH4 key to close focus.
 - d) Press the RANDOM/CH5 key to close tracking.
 - e) Observe RFO in respect to VC, and turn the tangential adjustment screw to obtain a flat waveform at the 11T section.
 - f) Repeat the adjustment resuming from step 2.



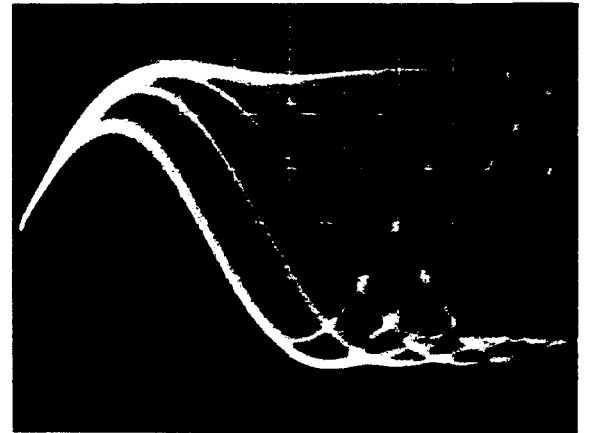
NG Fig. 19



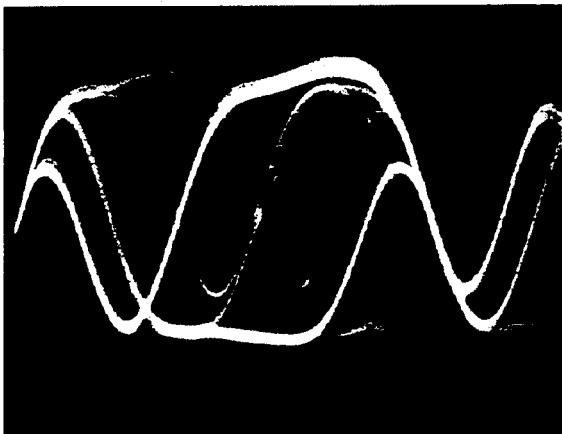
NG Fig. 20



OK Fig. 21

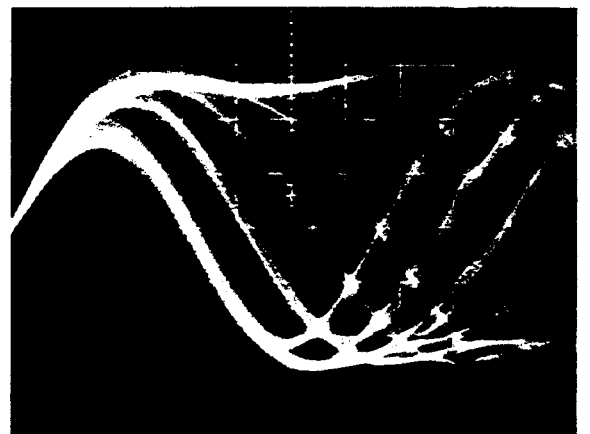


OK Fig. 22



NG Fig. 23

Play tune TN0 7 (TYPE4)

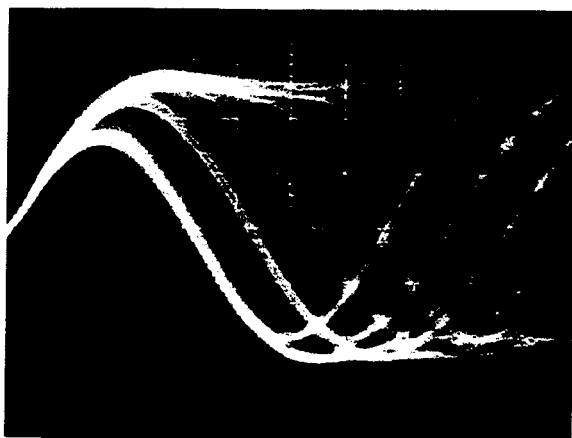


NG Fig. 24

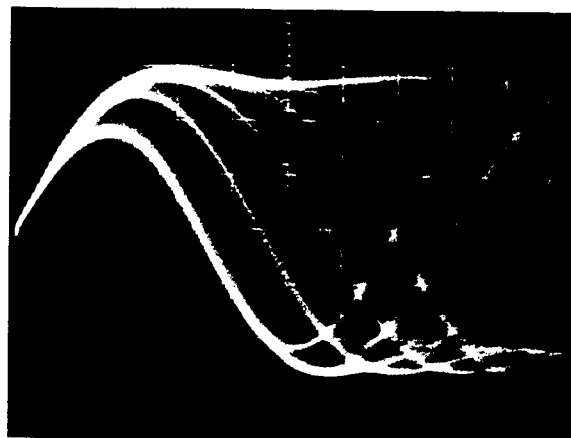
Play tune TN0 12 (TYPE4)

Adjustment Procedure (without R379 removed)

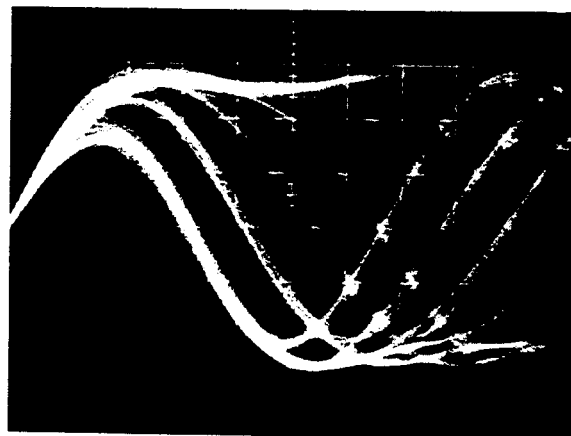
1. Play tune TNO 12 in normal mode. (TYPE 3:TNO 14)
2. Turn the tangential adjustment screw to obtain a good RF waveform eye pattern. Turn the adjustment screw both clockwise and counterclockwise to points where the eye pattern deteriorates, and take the midway point as the adjustment point. As a general guide, look for an overall clear waveform, and one of the diamond shapes in the eye pattern. The diamond shapes should appear in fine lines at the point of optimum adjustment. Take care not to knock the pick-up with the screwdriver at this stage. (This kind of accident can result in loss of focus.) (See Fig. 25-27)
3. Apply "screw-lock" to the tangential adjustment screw.
4. After adjusting tangential skew, also adjust the grating.



NG Fig. 25



OK Fig. 26



NG Fig. 27

8.8 Grating Adjustment

● **Purpose:** The grating may need adjustment in a replaced pick-up assembly.

● **Maladjustment symptoms:** No disc playback; track jumping

● **Measuring equipment/
jigs**

● **Measuring point**

● **Test disc and setting**

● **Adjustment position**

- Oscilloscope, clock driver, grating adjustment filter (bandpass filter) (GGF-133), AC millivoltmeter, two low-pass filters
- TEY, E LPF output, F LPF output
- SONY TYPE 4 (or TYPE 3) • Test mode
- Pick-up grating adjustment hole

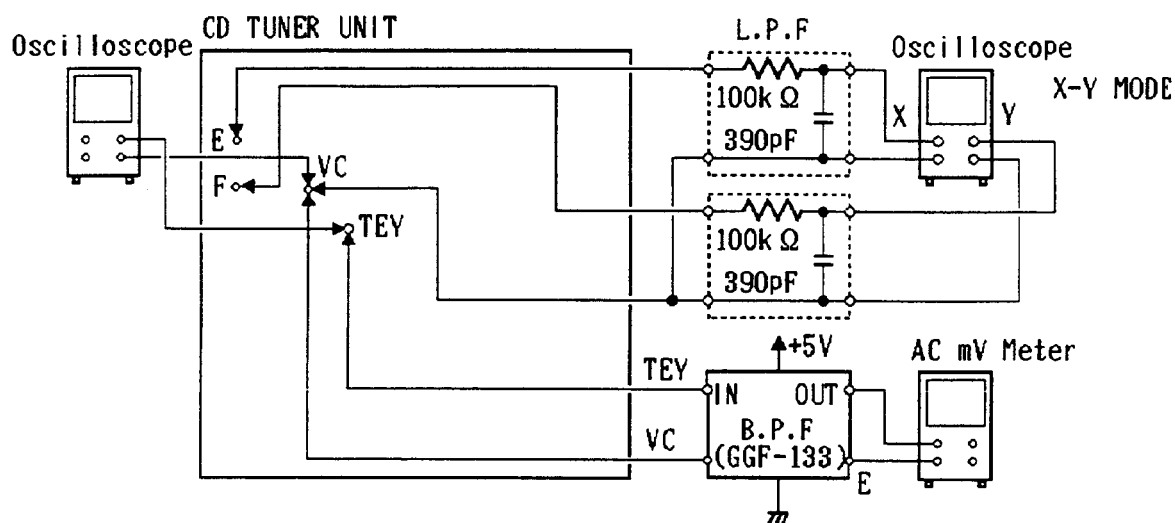


Fig. 28

Adjustment Procedure

1. Connect a low-pass filter (100k, 390p) to test points E, F, and VC as shown in the above diagram.
2. Switch regulator ON in test mode, and load a disc.
3. Press the **RPT/CH4** key to close focus.
4. Press the **RANDOM/CH5** key to close tracking.
5. Using the **FWD** or **REV** key, move the pick-up to about the center of the signal surface (tune TNO 6). (TYPE 3: TNO 7)
6. Press the **RANDOM/CH5** key to open tracking.
7. While monitoring the TEY filter output by AC milli-voltmeter, turn the grating adjustment hole slowly. The AC voltage increases and decreases while turning the screw. Search for the minimum voltage level. (This corresponds to the position where the grating is on a track, and is referred to as the null point.)
8. Then while monitoring TEY by oscilloscope, turn the driver slowly clockwise from the null point (as seen from under the pick-up) until the first waveform peak amplitude is reached. (See Fig. 30-35)

9. With the E low-pass filter output connected to the X axis of the oscilloscope, and the F low-pass filter output connected to the Y axis, apply an input in AC mode and observe the Lissajous figures.
10. Using the driver, adjust the Lissajous figure to a single line (or as close as possible)
11. Switch regulator OFF and remove the filters.

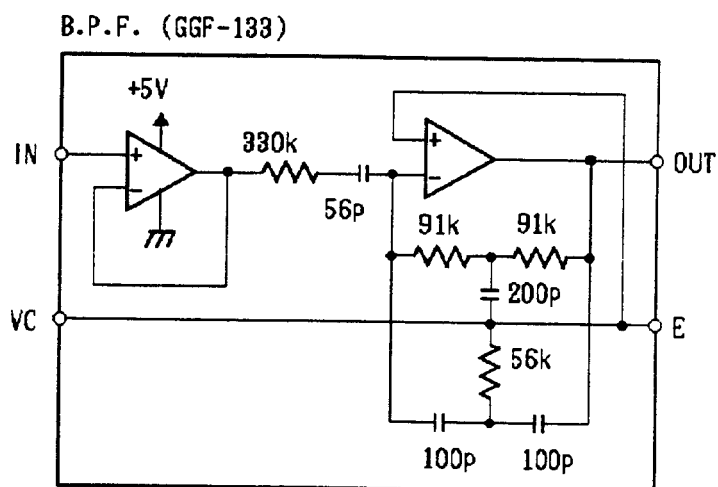


Fig. 29

TEY waveform 10ms/div, 500mV/div



Fig. 30

Null Point

Lissajous figure (AC input)
Horizontal axis E 20mV/div
Vertical axis F 20mV/div

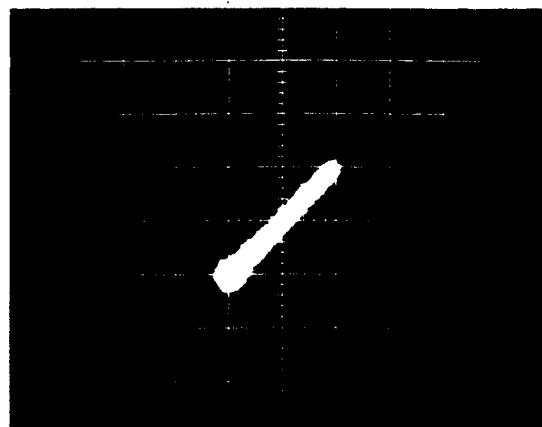


Fig. 31

"Rough" adjustment

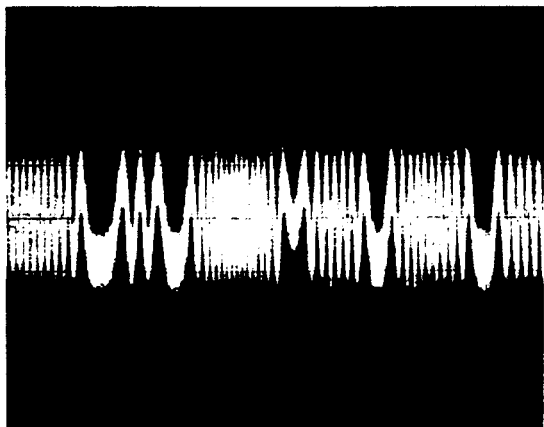


Fig. 32

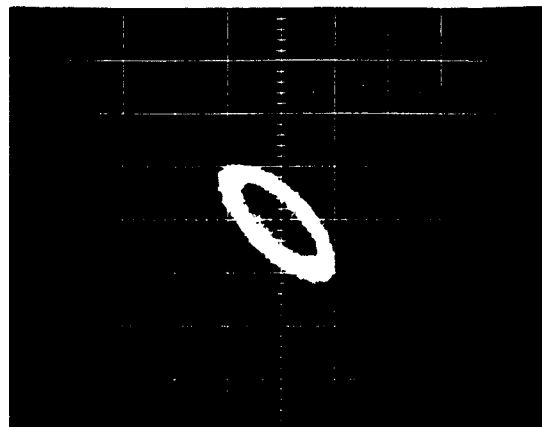


Fig. 33

Final adjustment

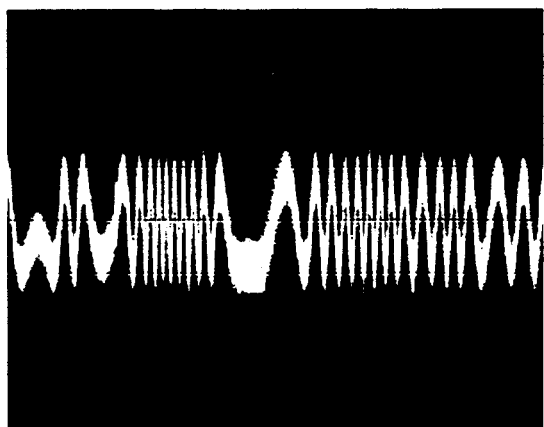


Fig. 34

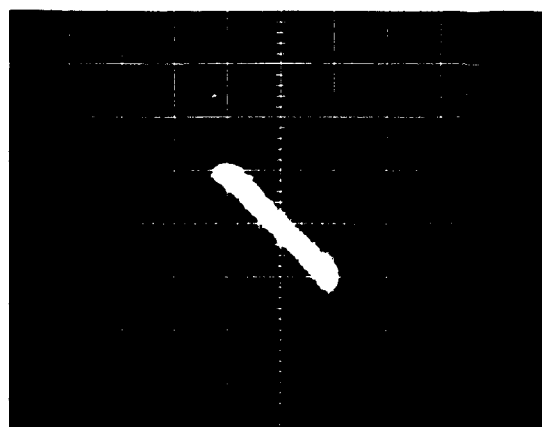


Fig. 35

8.9 Focus Bias Adjustment

● Purpose: To adjust the focus servo bias to an optimum value

● Maladjustment symptoms: Focus closing difficulty, poor playability

● Measuring equipment/
jigs

• Oscilloscope

● Measuring point

• RFO

● Test disc and setting

• SONY TYPE 4 (or TYPE 3) • Normal mode

● Adjustment position

• VR6 (FEB)

CD TUNER UNIT

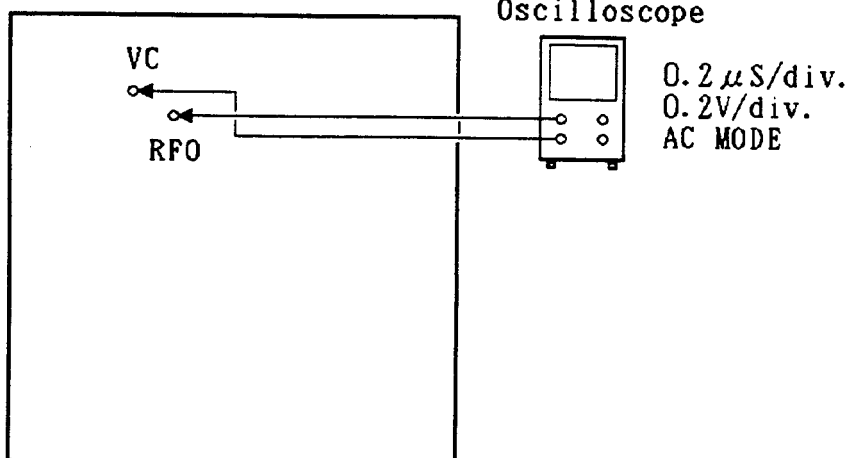
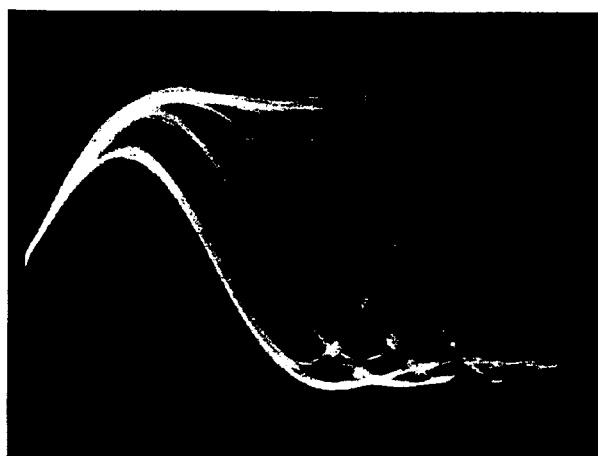


Fig. 36

Adjustment Procedure

1. Play tune TNO 12 in normal mode. (TYPE 3:TNO 14)
2. Observe RFO in respect to VC in the oscilloscope, and adjust VR6 (FEB) to obtain maximum RF and optimum eye pattern. (See Fig. 37 and 38)



OK

Fig. 37



0.2 μ s/div.
0.2V/div.
AC Mode

Before adjustment

Fig. 38

8.10 Focus Servo Loop Gain Adjustment

● **Purpose:** To adjust the focus servo loop gain to an optimum value

● **Maladjustment symptoms:** Poor playability, reduced resistance to vibration, focus closure fails readily

● **Measuring equipment/ jigs**

● **Measuring point**

● **Test disc and setting**

● **Adjustment position**

• Oscillator, gain adjustment filter (GGF-065), dual meter milli-voltmeter

• FEX, FEY

• SONY TYPE 4 (or TYPE 3) • Normal mode

• VR7 (FG)

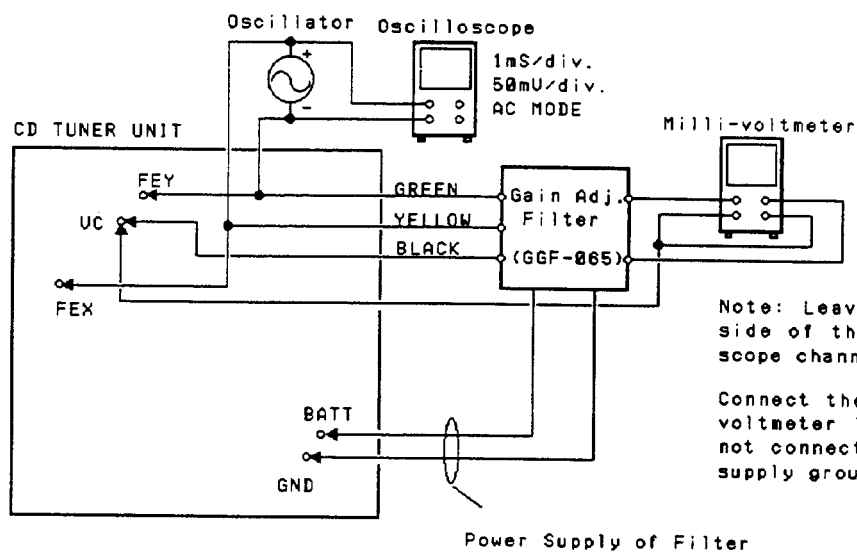


Fig. 39

Adjustment Procedure

1. After checking that the power is OFF, connect the gain adjustment filter and measuring equipment as shown in the above diagram.
2. Play tune TNO 12 in normal mode. (TYPE 3: TNO 14)
3. Set the oscillator to 1kHz, and observe the FEX/FEY output in the oscilloscope. Adjust the oscillator output to obtain a FEX/FEY output of 100mVp-p.
4. Adjust VR7 (FG) to obtain a milli-voltmeter difference of $0 \pm 0.5\text{dB}$.

8. 1 1 Tracking Servo Loop Gain Adjustment

●Purpose: To adjust the tracking servo loop gain to an optimum value

●Maladjustment symptoms: Poor playability, reduced resistance to vibration

●Measuring equipment/
jigs

●Measuring point

●Test disc and setting

●Adjustment position

• Oscillator, gain adjustment filter (GGF-065), dual meter milli-voltmeter

• TEX, TEY

• SONY TYPE 4 (or TYPE 3) • Normal mode

• VR8 (TG)

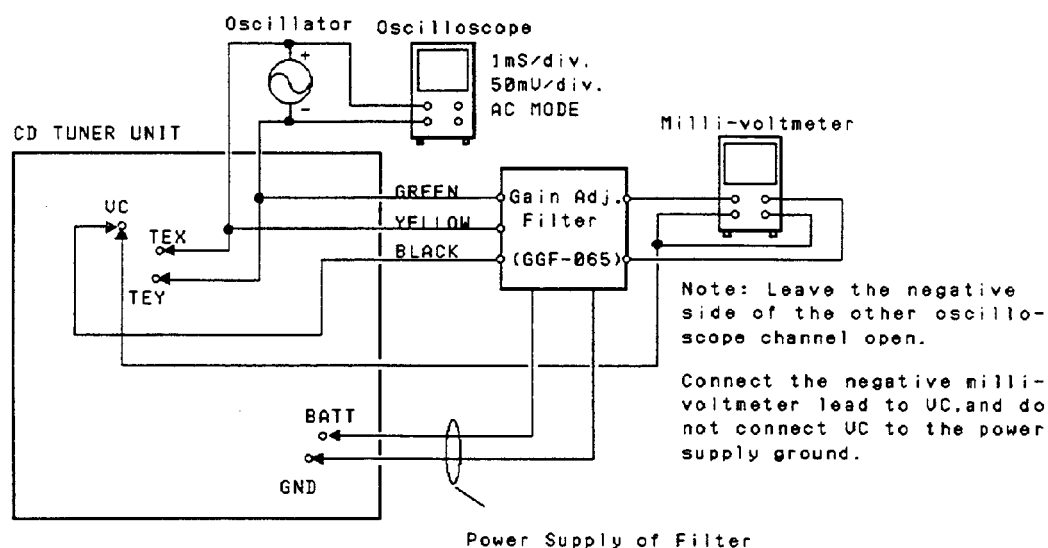


Fig. 40

Adjustment Procedure

1. After checking that the power is OFF, connect the gain adjustment filter and measuring equipment as shown in the above diagram.
2. Play tune TNO 12 in normal mode. (TYPE 3: TNO 14)
3. Set the oscillator to 1.4kHz, and observe the TEX/TEY output in the oscilloscope. Adjust the oscillator output to obtain a TEX/TEY output of 100mVp-p.
4. Adjust VR8 (TG) to obtain a milli-voltmeter difference of 0 ± 0.5 dB.

8.12 TE Offset Adjustment - II

● Purpose: To adjust the electrical offset of the tracking servo to zero.

● Maladjustment symptoms: Search times too long, carriage run-away

● Measuring equipment/
jigs

• DC voltmeter

● Measuring point

• TAO low-pass filter output

● Test disc and setting

• Empty magazine • Test mode

● Adjustment position

• VR4

Adjustment Procedure

Same as for TE offset adjustment-I, but with the DC voltage of the TAO LPF output adjusted to $0 \pm 50\text{mV}$.

The purpose of this additional adjustment is to correct any deviations generated when carrying out the tracking balance and tracking servo loop gain adjustments after completing TE offset adjustment-I.

8.13 Tracking Balance Adjustment-II

●Purpose: To adjust the tracking servo offset to zero.

●Maladjustment symptoms: Search times too long, poor playability, carriage run-away

●Measuring equipment/
jigs

• Oscilloscope

●Measuring point

• TEY low-pass filter output

●Test disc and setting

• SONY TYPE 4 (or TYPE 3) • Test mode

●Adjustment position

• VR5

Adjustment Procedure

Steps 1 thru 5 same as tracking balance adjustment-I.

6. Check that the level difference between the positive and negative amplitudes of the TEY signal is within 5% (See Fig. 15-17). If greater than 5%, adjust with VR5.

7. If further adjustment was necessary in step 6, repeat TE offset adjustment-II.

8.14 Clock Adjustment (UC, US, ES Model)

● **Purpose:** To adjust the clock frequency to a suitable value

- | | |
|--|-------------------------|
| ● Measuring equipment/
jigs | • Frequency counter |
| ● Measuring point | • CLOCK |
| ● setting | • Clock adjustment mode |
| ● Adjustment position | • C754 |

CD TUNER UNIT

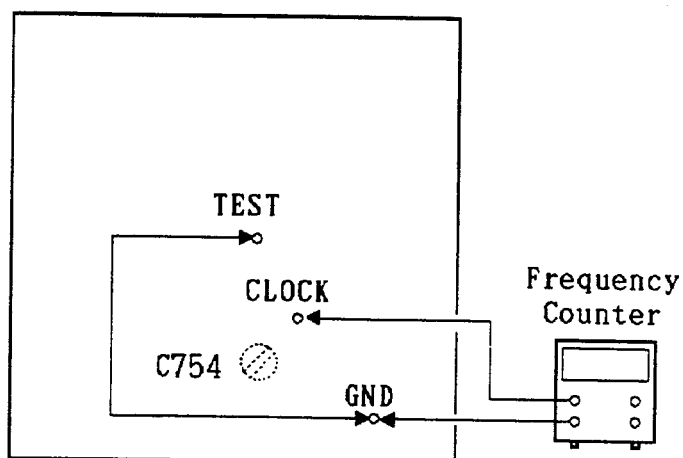


Fig. 41

Adjustment Procedure

1. Switch ACC, BACK-UP ON.
2. Connect TEST to GND. (Clock adjustment mode)
3. Connect the frequency counter to CLOCK.
4. Adjust C754 to obtain a frequency of $1,048,567\text{Hz} \pm 2\text{Hz}$.

8.15 Tuner Adjustment

• Connection Diagram

NOTICE: Select C1 so that total capacity of 80pF attained from the direction of the receiver jack.
Z: Output impedance of SSG.

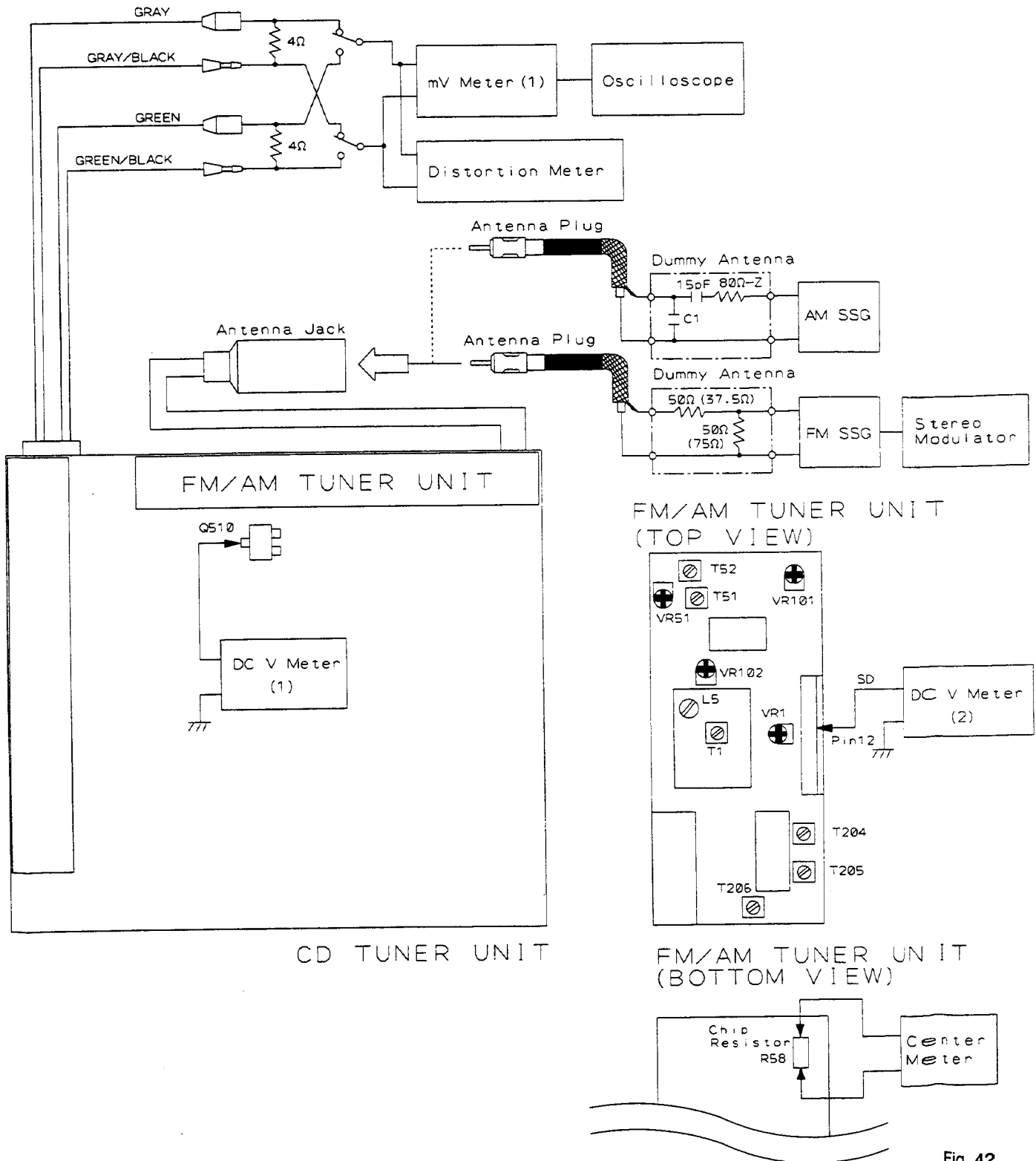


Fig. 42

MW/LW ADJUSTMENT (DEH-770SDK, 760SDK/WG, DEH-770, 760/EW)

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB μ V)			
Tuning Volt	1	(MW MODE)		1,602	—	Verify that DC V Meter (1) is less than 6.5V.
	2	(LW MODE)		153	—	Verify that DC V Meter (1) is more than 2.0V.
IF	1	999	20—25	999	T204, 205, 206	mV Meter (1):Maximum

AM ADJUSTMENT (DEH-770, 760, 660/UC, DEH-85, 630/US, DEH-710, 610/ES)

*:ES model when tuning step at 9kHz.

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB μ V)			
Tuning Volt	1			1,710 *(1.602)	—	Verify that DC V Meter (1) is less than 6.5V.
	2			530 *(531)	—	Verify that DC V Meter (1) is more than 2.0V.
IF	1	1,000 *(999)	20—25	1,000 *(999)	T204, 205, 206	mV Meter (1):Maximum

FM ADJUSTMENT

※ Stereo MOD. : 1kHz, L+R=90% , Pilot=10%

*: US and UC model

	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dB μ V)			
IF	1	98.1	60	98.1	T51	Center Meter:0
	2	98.1	60	98.1	T52	Distortion Meter:Minimum
	3	Repeat No.1-2 alternately so that the center meter indicates the 0 output and distortion meter indicates minimum output.				
Front End	1			108.0 *(107.9)	L5	DC V Meter (1) : 6.2 ± 0.2 V
	2			87.5 *(87.9)	—	Verify that DC V Meter (1) is more than 2.1 ± 0.6 V
	3	98.1	8	98.1	T1	Distortion Meter:Minimum
Soft Mute	1	98.1	60	98.1	—	mV Meter (1) : A dB
	2	98.1	10	98.1	VR102	mV Meter (1) : A-3dB
ARC	1	98.1※	35	98.1	VR101	mV Meter (1) : Separation 5dB
SD	1	98.1	17	98.1	VR51	DC V Meter (2) : Approx. 5V
	2	98.1	16	98.1	—	Verify that DC V Meter (2) is approx. 0V.
	3	98.1	55	98.1	VR1	** DC V Meter (2) : Approx. 5V
	4	98.1	54	98.1	—	Verify that DC V Meter (2) is approx. 0V.

**: Connect collector of Q2 to GND.

Connect DC regulated power supply to pin 3 of FM front end through resistor (330 Ω).

Add 4.3V from DC regulated power supply.

9. BLOCK DIAGRAM

• DEH-770/UC

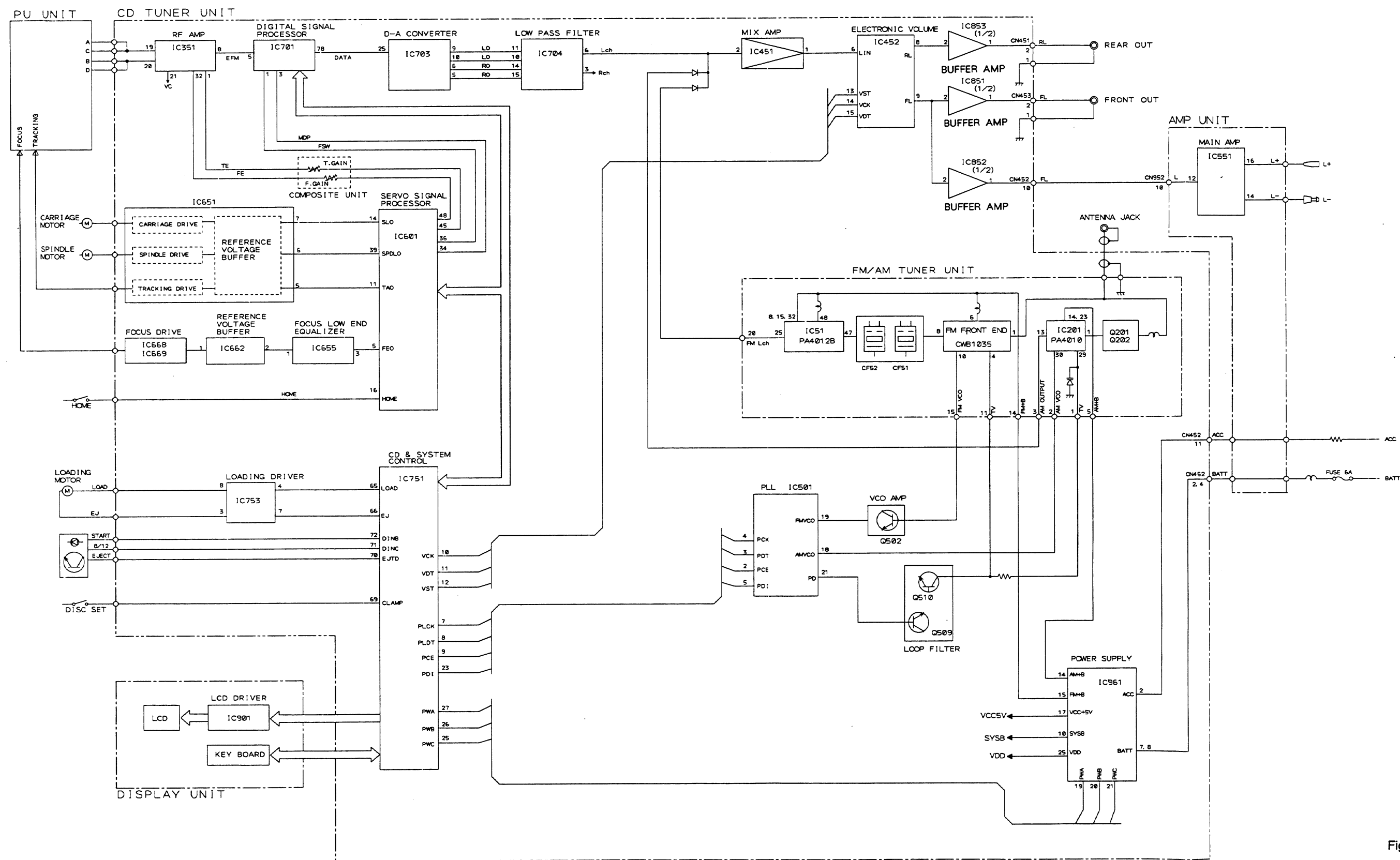


Fig. 43

• ICs

IC51: PA4012B

IC502: KHA172

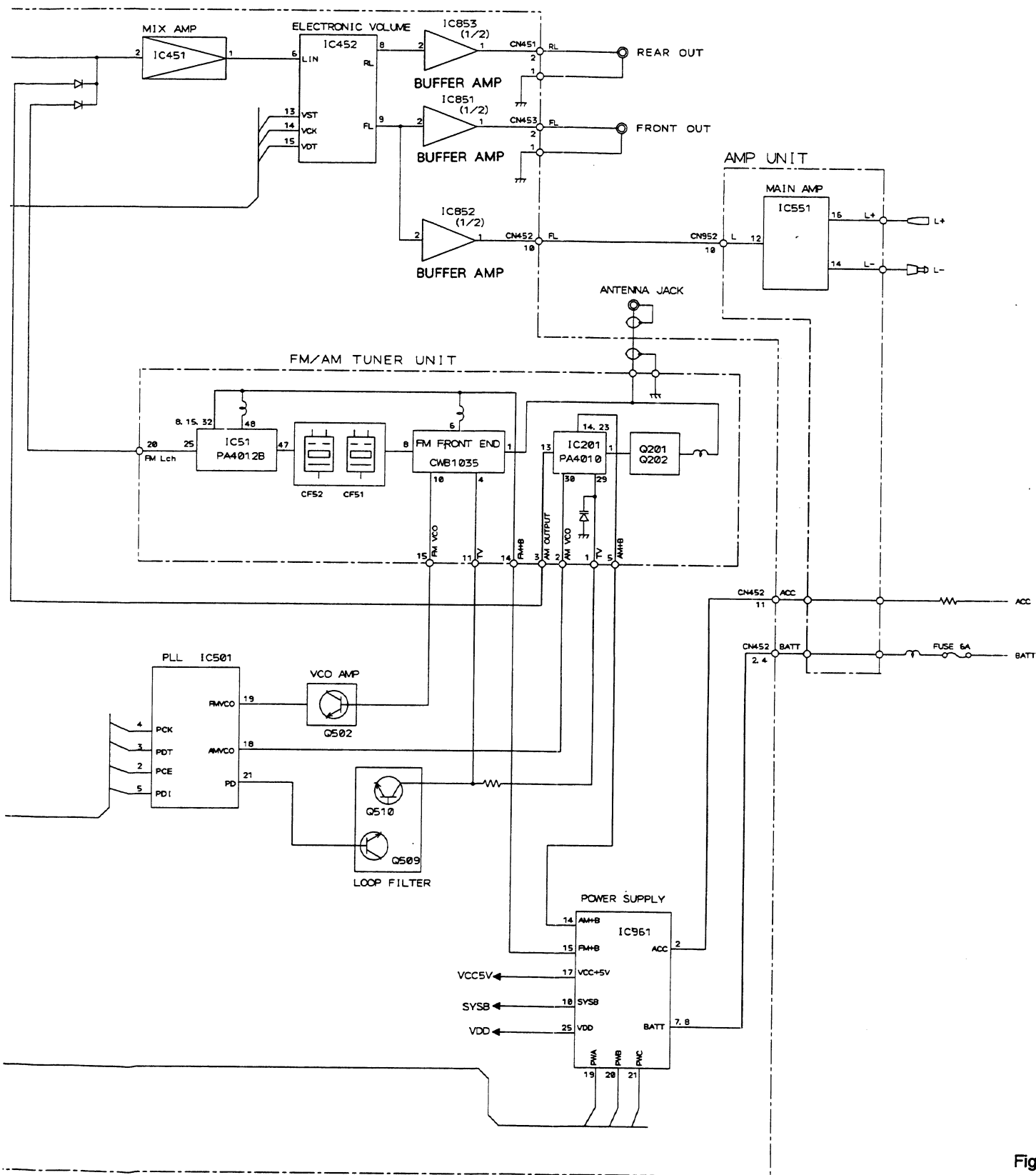
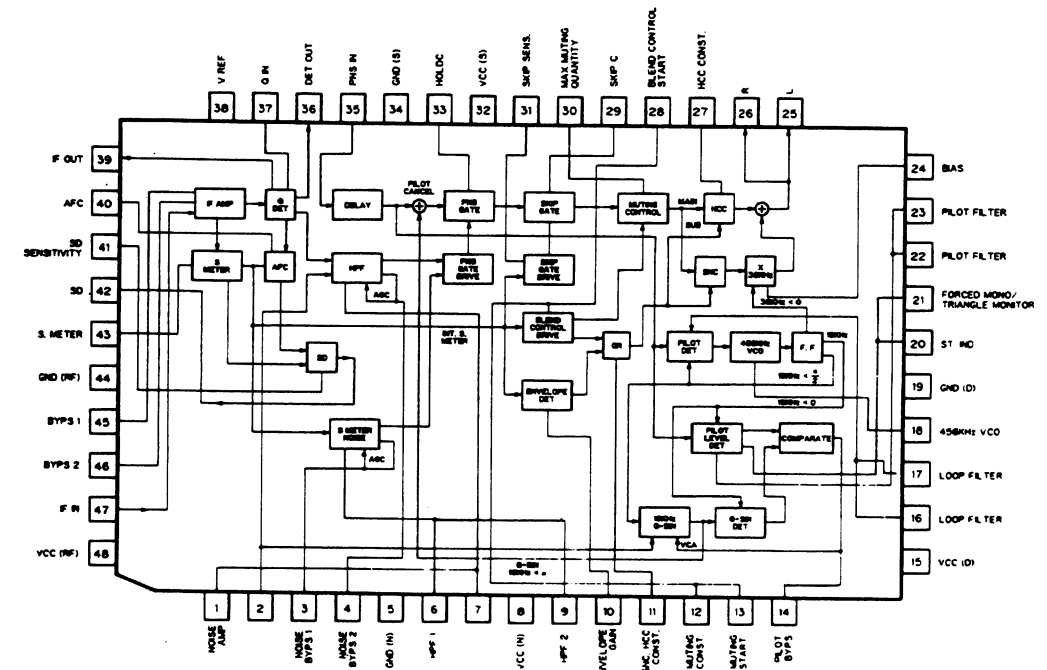


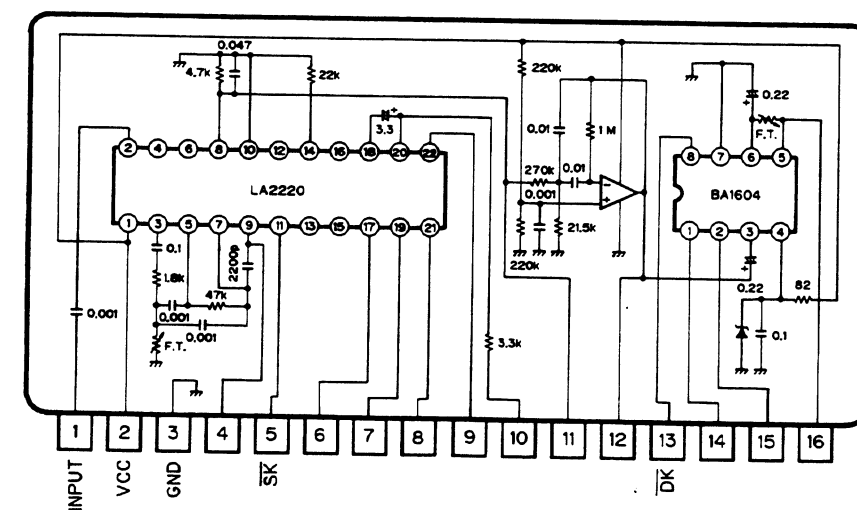
Fig. 43

• ICs

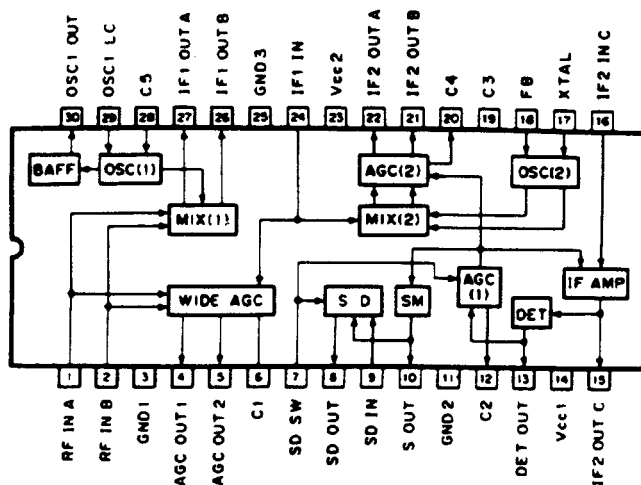
IC51: PA4012B



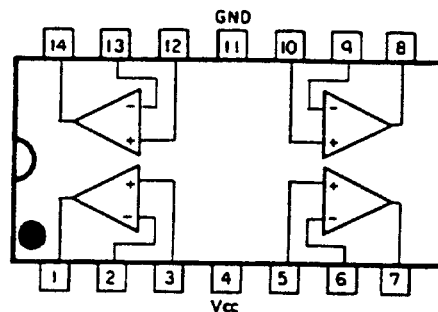
IC502: KHA172



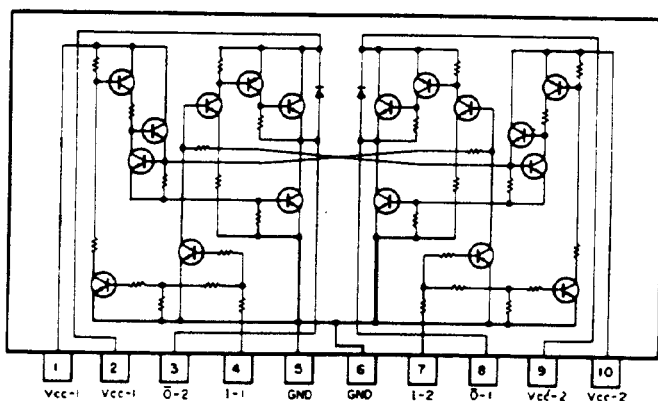
IC201: PA4010



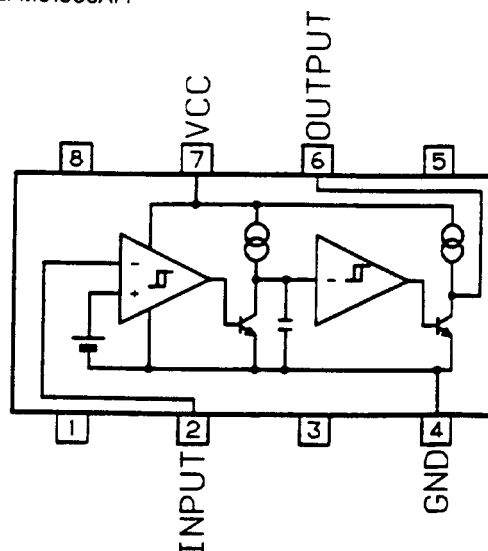
IC451, 655, 657, 662, 851 - 853: M5228FP



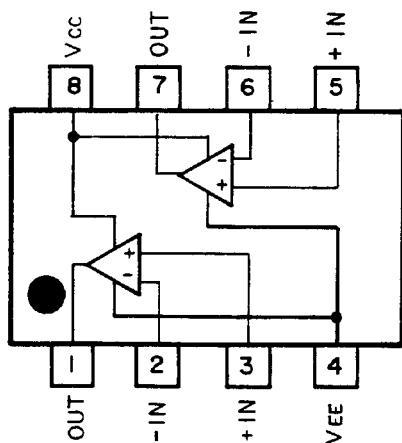
IC753: M54546AL



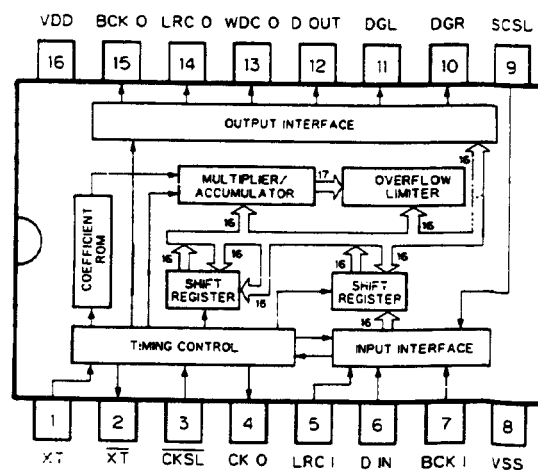
IC752: M51955AFP



IC2-6: NJM4558MD



IC703: SM5807ES-M



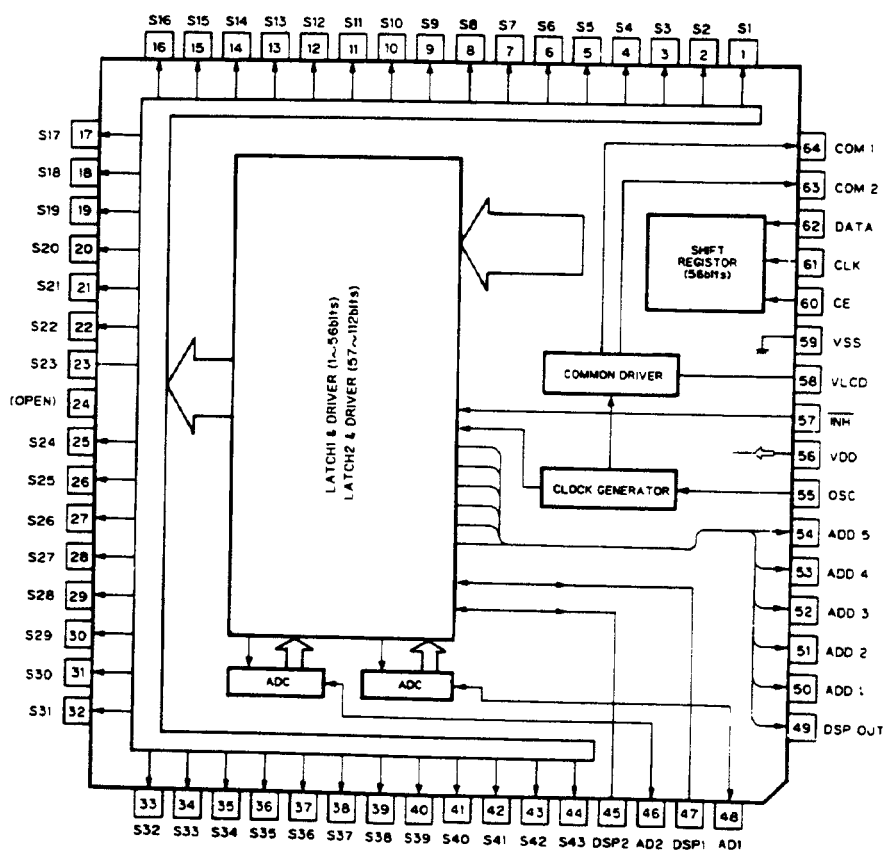
• Pin Functions (SM5807ES-M)

Pin	Pin name	I/O	Function and Operation
1	XT	input	Oscillator input
2	XT	output	Oscillator output
3	CKSL		"H": XT ← 16.93MHz input
4	CKO	output	Clock output
5	LRCI		44.1kHz synchronization clock input
6	DIN		Serial data input
7	BCKI		Bit clock input (Serial input)
8	VSS		GND
9	SCSL		System clock switching. "H": 192fs (fs: Sampling frequency)
10	DGR	output	R-ch digridge signal (176.4kHz)
11	DGL	output	L-ch digridge signal (176.4kHz)
12	DOU	output	Serial data output
13	WDCO	output	Output control clock (352.8kHz)
14	LRCO	output	Output control clock (176.4kHz)
15	BCKO	output	Bit clock output (Serial output)
16	VDD		Power supply (5V)

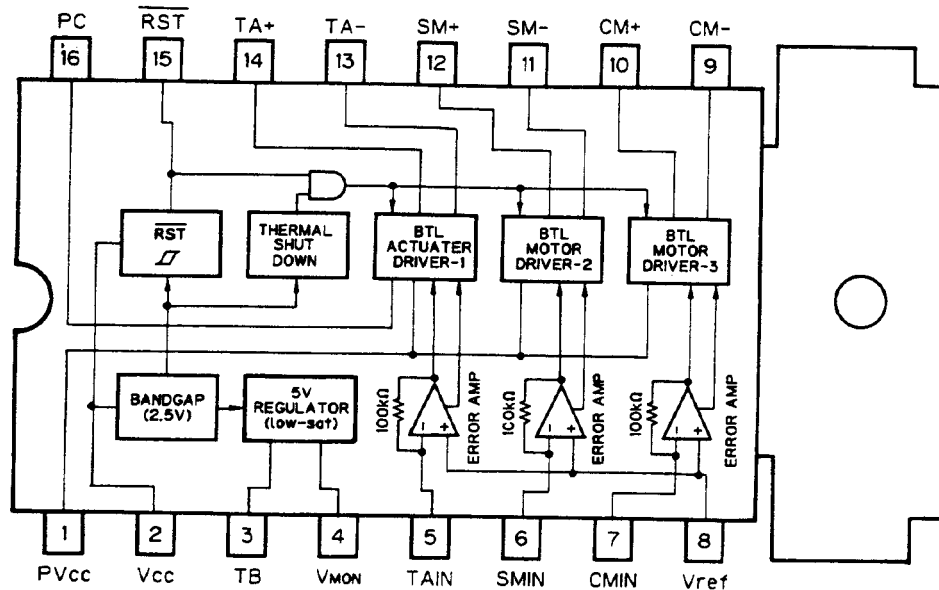
IC's marked by * are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.

* IC901: LC7582A



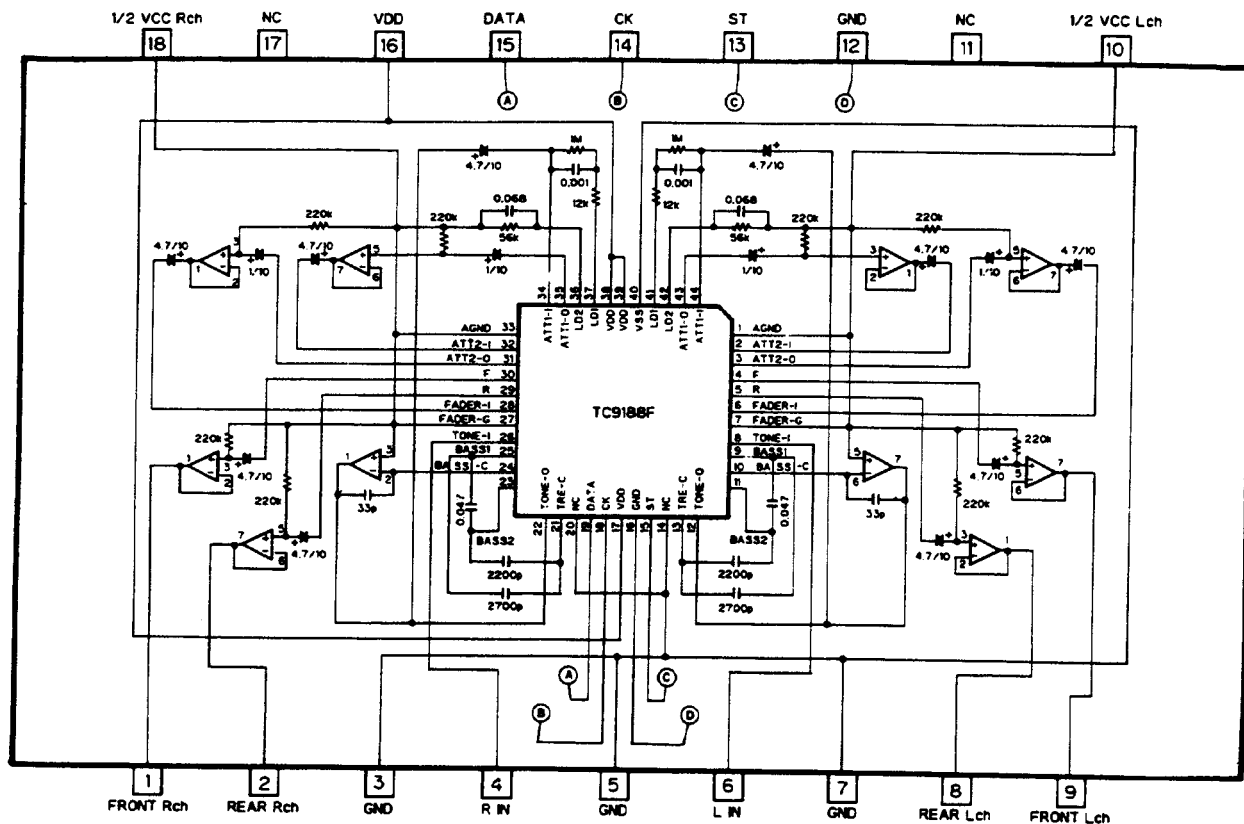
IC651: AN8377N



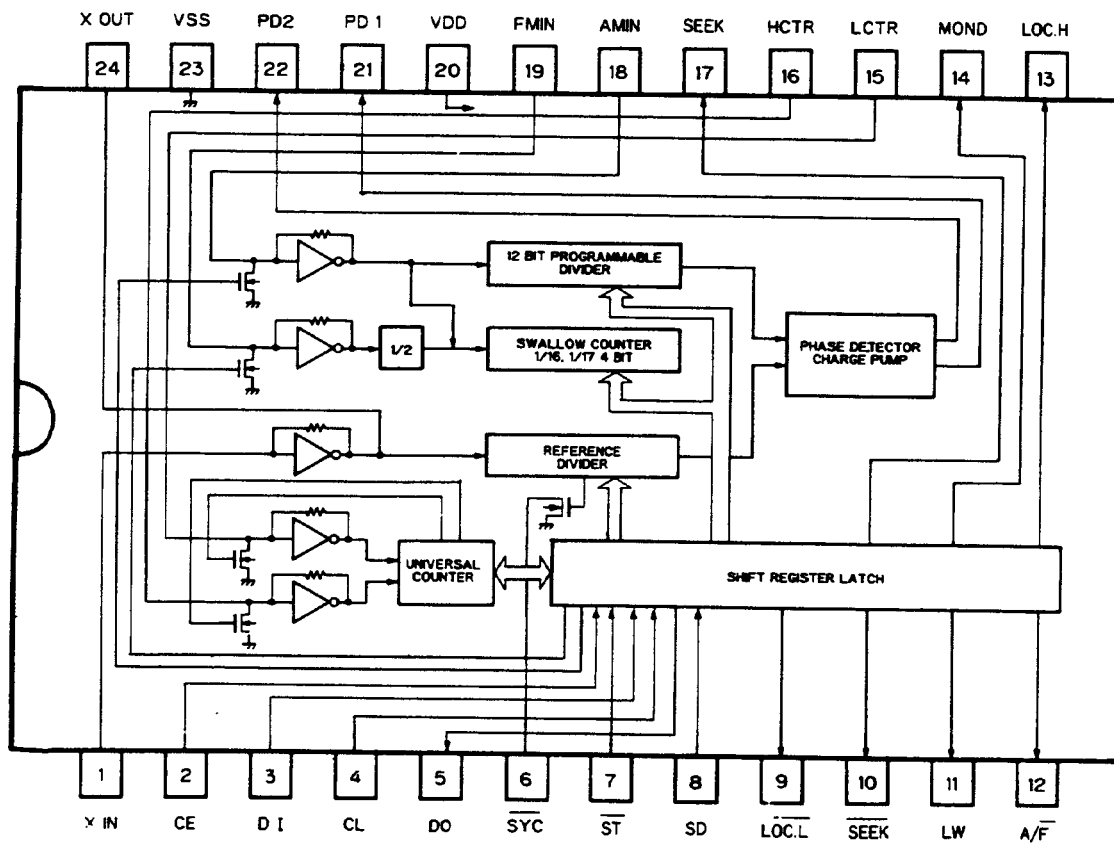
• Pin Functions (AN8377N)

Pin	Pin name	I/O	Function and Operation
1	PVCC		Driver power supply
2	VCC		Power supply
3	TB	input	Transistor base input
4	VMON	output	5V regulator output
5	TAIN	input	Actuator driver 1 error input
6	SMIN	input	Motor driver 2 error input
7	CMIN	input	Motor driver 3 error input
8	VREF	input	Vref input
9	CM-	output	Motor driver 3 - inverter output
10	CM+	output	Motor driver 3 - non-inverting output
11	SM-	output	Motor driver 2 - inverter output
12	SM+	output	Motor driver 2 - non-inverting output
13	TA-	output	Actuator driver 1 - inverter output
14	TA+	output	Actuator driver 1 - non-inverting output
15	RST	output	Reset output
16	PC		PC input

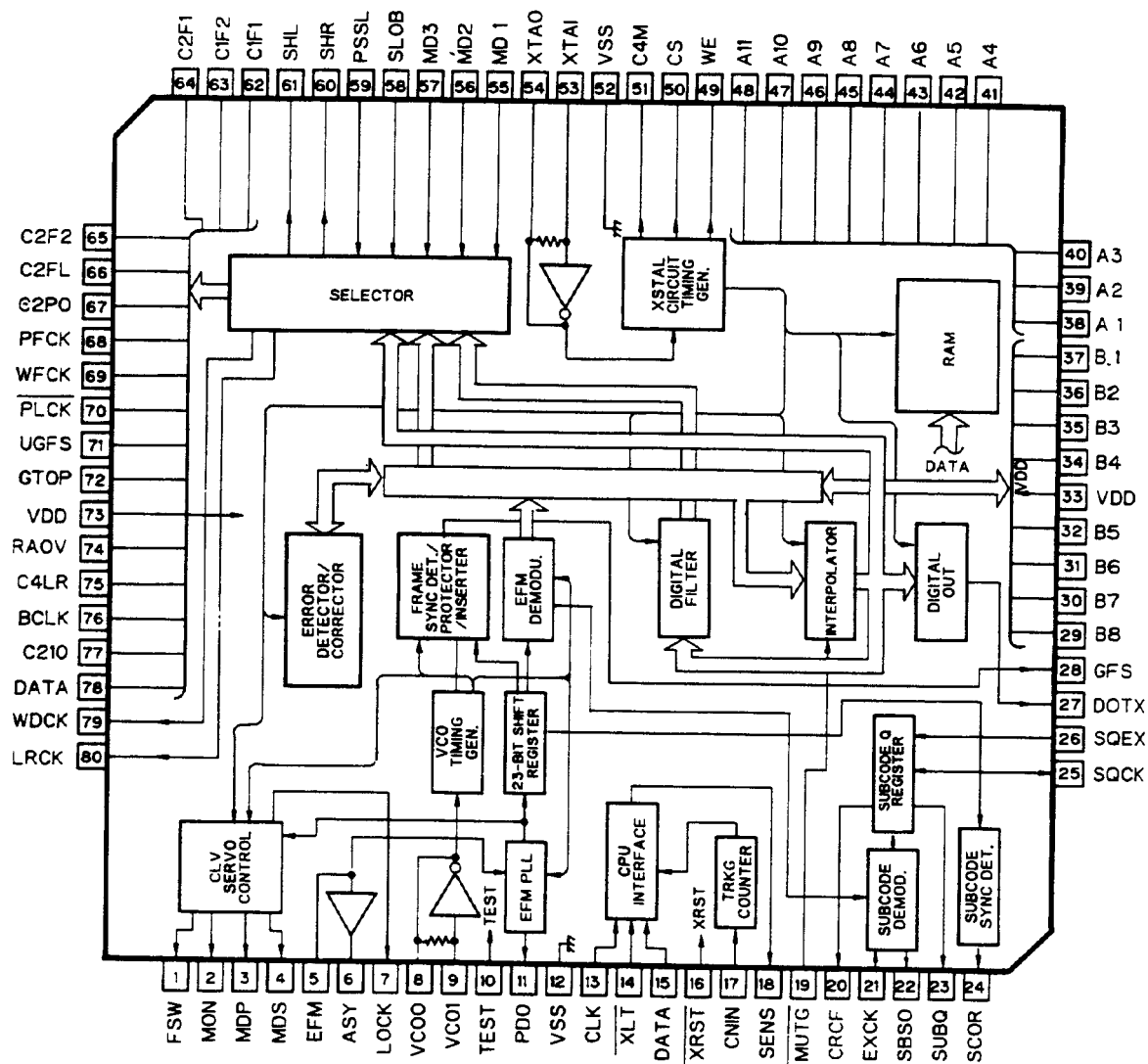
IC452: CWW1213



IC501: LC7218M



* IC701: CXD1167Q



● Pin Functions (CXD1167Q)

Pin No.	Pin Name	I/O	Function and Operation
1	FSW	Output	Spindle motor output filter time constant selector output
2	MON	Output	Spindle motor ON/OFF control output
3	MDP	Output	Spindle-motor drive output - "rough" control in CLV-S mode, and phase control in CLV-P mode
4	MDS	Output	Spindle motor drive output - speed control in CLV-P mode
5	EFM	Input	EFM signal input from RF amplifier
6	ASY	Output	EFM signal slice level control output
7	LOCK	Output	Sampling of GFS signal by WFCK/16 - "H" output if "H", "L" output if "L" detected eight times in succession
8	VCOO	Output	VCO output - $f = 8.6436\text{MHz}$ when EFM signal is locked
9	VCOI	Input	VCO input
10	TEST	Input	(0V)
11	PDO	Output	EFM signal and VCO/2 phase comparison output
12	V _{SS}	—	Ground (0V)
13	CLK	Input	Serial data transfer clock input from CPU - data latched by clock leading edge
14	XLT	Input	Latch input from CPU - 8-bit shift register data (serial data from CPU) is latched in each register.
15	DATA	Input	Serial data input from CPU
16	XRST	Input	System reset signal input - reset when "L"
17	CNIN	Input	Tracking pulse input
18	SENS	Output	Output of internal status according to address
19	MUTG	Input	Muting input - when ATTM of internal register A is "L", MUTG "L" denotes normal status, and "H" muted status
20	CRCF	Output	Sub-code Q CRC check result output
21	EXCK	Input	Clock input for sub-code serial output
22	SBSO	Output	Sub-code serial output
23	SUBQ	Output	Sub-code Q output
24	SCOR	Output	Sub-code synchronizing S0 + S1 output
25	SQCK	Input/Output	Sub-code Q read clock
26	SQEX	Input	SQCK selector input
27	DOTX	Output	Digital out output ($\overline{\text{WFCK}}$ output)
28	GFS	Output	Frame synchronizing lock status indicator output
29	B8	Input	Connected to GND
30	B7	Input	Connected to GND
31	B6	Input	Connected to GND
32	B5	Input	Connected to GND
33	V _{DD}	—	Power supply (+5V)
34	B4	Input	Connected to GND
35	B3	Input	Connected to GND

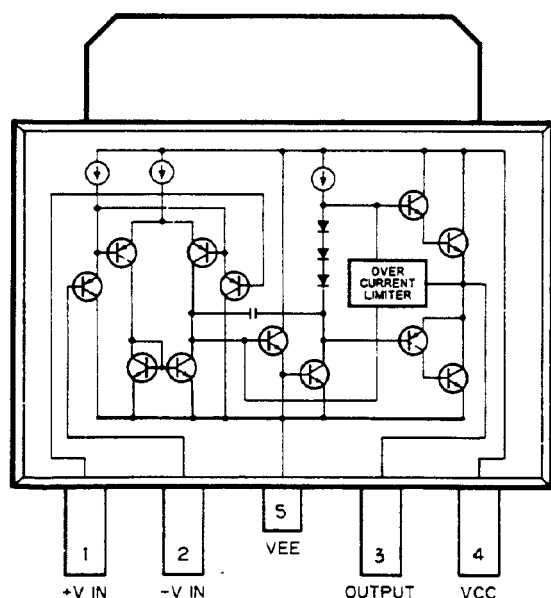
Pin No.	Pin Name	I/O	Function and Operation
36	B2	Input	Connected to GND
37	B1	Input	Connected to GND
38	A1	Input	Connected to GND
39	A2	Input	Connected to GND
40	A3	Input	Connected to GND
41	A4	Input	Connected to GND
42	A5	Input	Connected to GND
43	A6	Input	Connected to GND
44	A7	Input	Connected to GND
45	A8	Input	Connected to GND
46	A9	Input	Connected to GND
47	A10	Input	Connected to GND
48	A11	Input	Connected to GND
49	WE	Output	External RAM write enable signal output (active "L")
50	CS	Output	External RAM chip select signal output (active "L")
51	C4M	Output	X'tal frequency division output ($f = 4.2336\text{MHz}$)
52	V _{SS}	—	Ground (0V)
53	XTAI	Input	Crystal oscillator Input
54	XTAO	Output	Crystal oscillator output
55	MD1	Input	Mode selector input 1
56	MD2	Input	Mode selector input 2
57	MD3	Input	Mode selector input 3
58	SLOB	Input	Audio data output code selector input - 2's complement output "L", offset binary output if "H"
59	PSSL	Input	Audio data output mode selector input - serial output if "L", parallel output if "H"
60	SHR	Output	Aperture correction control output - "H" when right channel
61	SHL	Output	Aperture correction control output - "L" when left channel
62	C1F1	Output	C1F1 output
63	C1F2	Output	C1F2 output
64	C2F1	Output	C2F1 output
65	C2F2	Output	C2F2 output
66	C2FL	Output	C2FL output
67	C2PO	Output	C2PO output
68	RFCK	Output	RFCK output
69	WFCK	Output	WFCK output
70	PLCK	Output	PLCK output
71	UGFS	Output	UGFS output
72	GTOP	Output	GTOP output

Pin No.	Pin Name	I/O	Function and Operation
73	V _{DD}	—	Power supply (+ 5V)
74	RAOV	Output	RAOV output
75	C4LR	Output	C4LR output
76	$\overline{\text{BCLK}}$	Output	$\overline{\text{C210}}$ output
77	C210	Output	C210 output
78	DATA	Output	DATA output
79	WDCK	Output	Strobe signal output
80	LRCK	Output	Strobe signal output

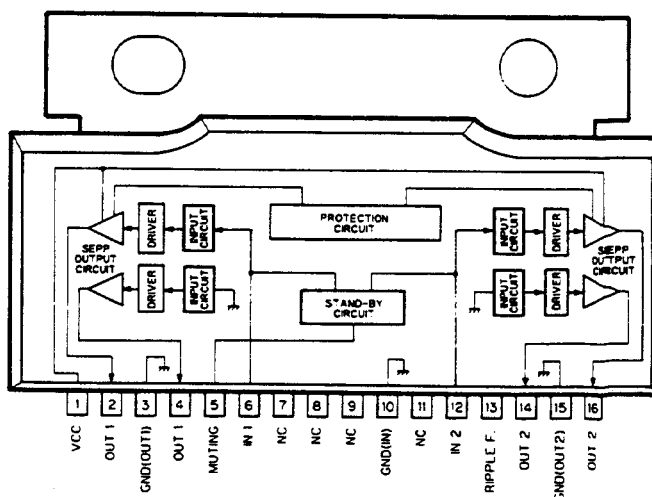
Note:

- C1F1: C1 decoding error correction status monitor output
C1F2: C1 decoding error correction status monitor output
C2F1: C2 decoding error correction status monitor output
C2F2: C2 decoding error correction status monitor output
C2FL: Corrected status output - "H" if C2 system currently being corrected cannot be corrected
C2PO: C2 pointer indication output - synchronized with audio data output
RFCK: Read frame clock output - crystal oscillator 7.35kHz
WFCK: Write frame clock output - $f = 7.35\text{kHz}$ when crystal oscillator is locked
PLCK: VCO/2 output - $f = 4.3218\text{MHz}$ when EFM signal is locked
UGFS: Unprotected frame synchronizing pattern output
GTOP: Frame synchronization protection status indicator output
RAOV: ± 4 frame jitter absorption RAM overflow and underflow indicator output
C4LR: Strobe signal
BCLK: C210 inverting output
C210: Bit clock output
DATA: Audio signal serial data output

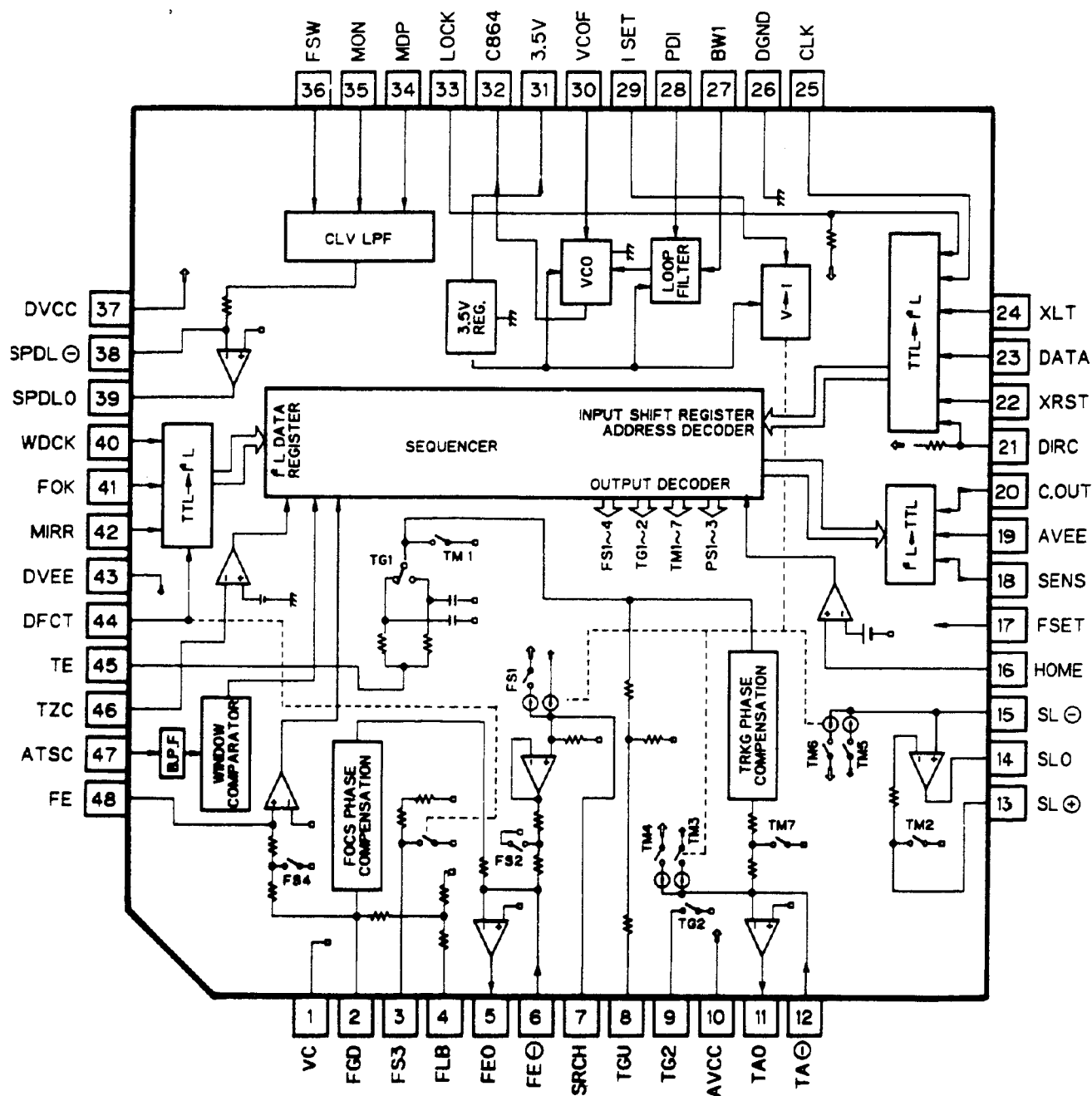
IC668, 669: LA6501-FA



IC551: AN7188K



* IC601: CXA1082BQ

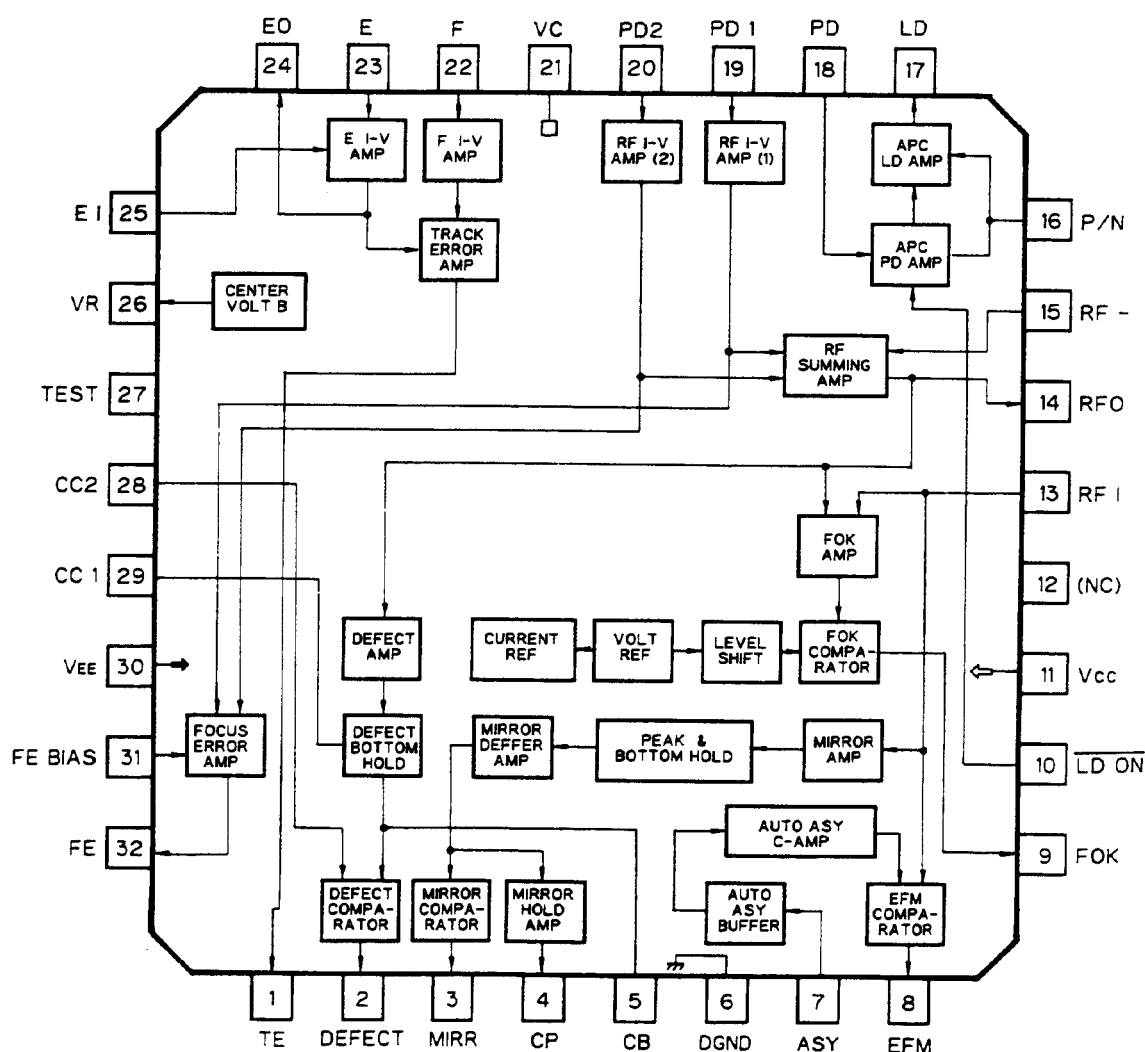


● Pin Functions (CXA1082BQ)

Pin No.	Pin Name	I/O	Function and Operation
1	VC		Servo reference voltage input pin
2	FGD		Connect to pin 3 to switch focus servo OFF when defect occurs
3	FS3		Internal DFCT switch closed when pin 44 is high
4	FLB		Focus servo low region boost external time constant pin
5	FEO	Output	Focus drive output - connect to low-end equalizer
6	FE-	Input	Focus amplifier inverter input pin
7	SRCH		Focus search waveform generation external time constant connector pin
8	TGU	Output	Tracking low-end equalizer connection output pin
9	TG2		Pin 7 discharge switch for starting focus search from lens center
10	AVCC		+ 5V connection
11	TAO	Output	Tracking drive output
12	TA-	Input	Tracking amplifier inverter input pin
13	SL+	Input	Sled amplifier non-inverting input pin
14	SLO	Output	Sled drive output
15	SL-	Input	Sled amplifier inverter input pin
16	HOME	Input	Sled home position detector switch input pin
17	FSET		Focus/tracking phase compensation peak and CLV low-pass filter f_0 setting pin
18	SENS	Output	Output of FZC, AS, TZC, SSTOP, and BUSY depending on command from CPU
19	AVEE		AGND connection
20	COUT	Output	Track counter signal output
21	DIRC		Not used
22	XRST	Input	Reset input pin - reset when "L"
23	DATA	Input	Serial data input from CPU
24	XLT	Input	Latch input from CPU
25	CLK	Input	Serial data transfer clock input from CPU
26	DGND		DGND connection
27	BW1		Loop filter external time constant pin
28	PDI	Input	Input of CXD1135 phase comparator output PDO
29	ISSET		Current which determines focus search, track jump, and sled kick height
30	VCOF		VCO free-running frequency more or less inversely
31	3.5V	Output	Proportional to resistance value between pins 30 and 31
32	C864	Output	8.64MHz VCO output pin
33	LOCK		Not used
34	MDP		Connect to MDP pin of CXD1135
35	MON		Connect to MON pin of CXD1135
36	FSW		CLV servo error signal low-pass filter external time constant pin
37	DVCC		+ 5V connection
38	SPDL-	Input	Spindle drive amplifier inverter input pin

Pin No.	Pin Name	I/O	Function and Operation
39	SPDLO	Output	Spindle drive output
40	WDCK	Input	Auto-sequence clock input 176.4kHz
41	FOK	Input	FOK signal input pin
42	MIRR	Input	Mirror signal input pin
43	DVEE		DGND connection
44	DFCT	Input	DEFECT signal input pin - defect countermeasure circuit activated when this input is high
45	TE	Input	Tracking error signal input pin
46	TZC	Input	Tracking zero-cross comparator input pin
47	ATSC	Input	Tracking lens offset detector window comparator input pin
48	FE	Input	Focus error signal input pin

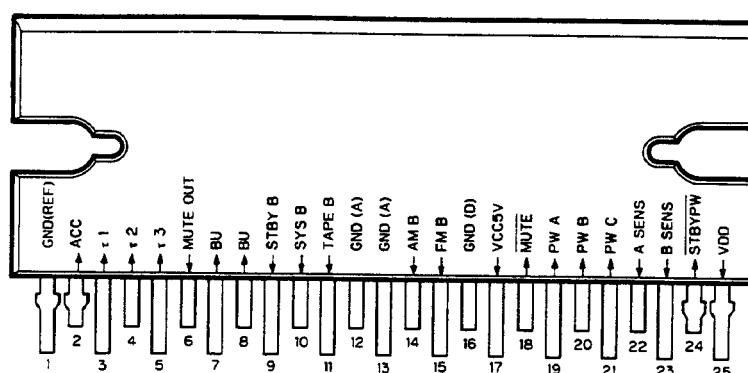
• IC351: CXA1081Q



● Pin Functions (CXA1081Q)

Pin No.	Pin. Name	I/O	Function and Operation
1	TE	Output	Tracking error amplifier output pin
2	DEFECT	Output	DEFECT comparator output pin
3	MIRR	Output	MIRR comparator output pin
4	CP	Input	MIRR hold capacitor connector pin - MIRR comparator non-inverting input pin
5	CB	Input	DEFECT bottom hold capacitor connector pin
6	DGND		Ground connection
7	ASY	Input	Auto asymmetry control input pin
8	EFM	Output	EFM comparator output pin
9	FOK	Output	Focus OK comparator output pin
10	LDON	Input	Laser diode ON/OFF switching
11	VCC		Positive power supply pin
12	NC		
13	RFI	Input	Input of capacitance-coupled RF summing amplifier output
14	RFO	Output	RF summing amplifier output pin - eye pattern check point
15	RF -	Input	RF summing amplifier feedback input pin
16	P/N	Input	Laser diode P-sub/N-sub selector pin
17	LD	Output	APC LD amplifier output pin
18	PD	Input	APC PD amplifier input pin
19	PD1	Input	RF I-V amplifier (1) inverter input pin - connected to photodiode A + C pin for current input
20	PD2	Input	RF I-V amplifier (2) inverter input pin - connected to photodiode B + D pin for current input
21	VC		Connected to VR
22	F	Input	I-V amplifier inverter input pin - connected to photodiode for current input
23	E	Input	I-V amplifier inverter input pin - connected to photodiode for current input
24	EO	Output	E I-V amplifier output pin
25	EI	Input	E I-V amplifier feedback input for E I-V amplifier gain adjustment
26	VR	Output	$(V_{CC} + V_{EE})/2$ DC voltage output pin
27	TEST		Open
28	CC2	Input	Input of capacitance-coupled DEFECT bottom hold output
29	CC1	Output	DEFECT bottom hold output pin
30	VEE		Ground connection
31	FE BIAS	Input	Focus error amplifier non-inverting bias pin Used in focus error amplifier CMR adjustment
32	FE	Output	Focus error amplifier output pin

IC961: PA2018



• Pin Functions (PA2018)

Pin No.	Pin Name	I/O	Function and Operation
1	GND		GND (ref) Reference GND
2	ACC	Input	Connected to accessory power supply of a car
3	r1	Input	Connected with external capacity for VDD backup
4	r2	Input	Connected with external capacity and used for setting of the operation time of the overcurrent protective function
5	r3	Input	Connected with external capacity and used for setting of the delay time of MUTE OUT
6	MUTEOUT	Output	MUTE circuit control output
7	BU	Input	Connected to car backup power supply
8	BU	Input	Connected to car backup power supply
9	STBYB	Output	Power amplifier control signal output
10	SYSB	Output	Stabilized power output for circuits (sound quality, sound volume, balance, etc.) common to the system
11	TAPEB	Output	Stabilized power output for cassette deck circuit (equalizer amplifier, etc.)
12	GND(A)		Analog GND
13	GND(A)		Analog GND
14	AMB	Output	Stabilized power output for AM tuner circuit
15	FMB	Output	Stabilized power output for FM tuner circuit
16	GND(D)	Output	Digital GND
17	VCC5V	Output	Stabilized power output used for microcomputer interface circuit
18	MUTE	Input	MUTE control input from the outside (MUTE OUT at H for input of L)
19	PWA	Input	Input for output selection, which controls the output with three bit signals of PWA, PWB, and PWC
20	PWB	Input	
21	PWC	Input	
22	ASENS	Output	ACC line voltage detection output (H for voltage detection)
23	BSENS	Output	BU line voltage detection output (H for voltage detection)
24	STBYPW	Output	Terminal for internal circuit which is connected with external capacity
25	VDD	Output	Stabilized power output for microcomputer, with backup and overcurrent protection functions

DECODER LOGIC (PA2018)

INPUT			OUTPUT			
Pin 19 PWA	Pin 20 PWB	Pin 21 PWC	Pin 10 SYSB	Pin 11 TAPEB	Pin 15 FMB	Pin 14 AMB
L	L	L	OFF	OFF	OFF	OFF
L	L	H	ON	OFF	OFF	ON
L	H	L	ON	OFF	ON	OFF
L	H	H	ON	OFF	OFF	OFF
H	L	L	ON	ON	OFF	OFF
H	L	H	ON	ON	OFF	ON
H	H	L	ON	ON	ON	OFF
H	H	H	ON	ON	ON	ON

• Detection of voltage

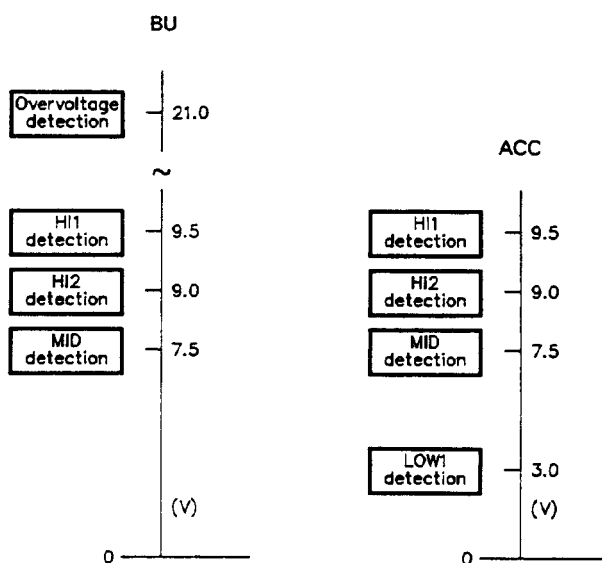


Fig. 44

HI1
detection

1. MUTE operation stop control

HI2
detection

1. MUTE operation start control
2. Audio system power output start control

MID
detection

1. Control of operation of microcomputer and control systems
2. Audio system power output stop control

LOW1
detection

1. MUTE operation control
2. Control of low current consumption mode

Overvoltage
detection

1. Control of outputs other than VDD

• **Output from power IC (PA2018) to microcomputer system**

- 1) VDD: Normally output according to the voltage of $\tau 1$
 2) VCC: Output when BU is above the MID detection voltage and ACC is above the MID detection voltage.

<VCC output requirements>

$BU \geq \text{MID detection}$ $ACC \geq \text{MID detection}$

- 3) A sens: H output when BU is above the MID detection voltage and ACC is above the MID detection voltage.

L output when above requirements are not met

<A sens H-output requirements>

$BU \geq \text{MID detection}$ $ACC \geq \text{MID detection}$

- 4) B Sens: H output when BU is above the MID detection voltage

L output when the above requirement is not met

<B sens H-output requirement>

$BU \geq \text{MID detection}$

• **Output from power IC (PA2018)**

- 1) SYSB, TAPEB, FMB, AMB:

Hysteresis operation (See the figure below)

ON with HI2 detection voltage and OFF with MID detection voltage

ON: When BU is above the HI2 detection voltage and ACC is above the HI2 detection voltage and when any one of inputs (A, B, and C) for output selection is H

<ON requirements>

$BU \geq \text{HI2 detection}$ $ACC \geq \text{HI2 detection}$ $A \text{ or } B \text{ or } C = H$
--

OFF: When BU is less than the MID detection voltage or ACC is less than the MID detection voltage or when all of inputs (A, B, and C) for output selection are L

<OFF requirements>

$BU < \text{MID detection}$ $ACC < \text{MID detection}$ $A \text{ and } B \text{ and } C = L$
--

- * For the output state of inputs (A, B, and C) for output selection, refer to the attached material 1. Decoder Logic.

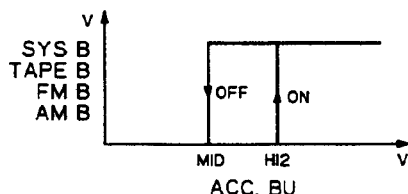


Fig. 45

- 2) STBY B: Output in synchronization with SYSB

- 3) MUTE OUT

Normal operation (See the figure below)

Hysteresis operation

ON with HI2 detection voltage and OFF with HI1 detection voltage

ON: ① When BU is less than the HI2 detection voltage and ACC is above the LOW1 detection voltage

or

when ACC is less than the HI2 detection voltage and

ACC is above the LOW1 detection voltage

<ON requirements>

$BU < \text{HI2 detection}$ $ACC \geq \text{LOW 1 detection}$
$ACC < \text{HI2 detection}$ $ACC \geq \text{LOW1 detection}$

② When MUTE input is L

OFF: ① When BU is above the HI1 detection voltage and ACC is above HI1 detection voltage

② When ACC is less than the LOW1 detection voltage

<OFF requirements>

$BU \geq \text{HI1 detection}$ $ACC \geq \text{HI1 detection}$
$ACC < \text{LOW1 detection}$

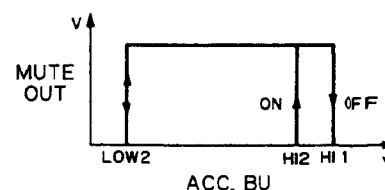


Fig 46

Delay operation (See the figure below)

The time period during which either BU or ACC remains below the MID detection voltage is represented by "T". Two time periods determined from the external capacity of $\tau 3$ terminal are respectively represented by T3A and T3B.

① $T \geq T3B$

Delay MUTE OUT ON for a period from rise of BU and ACC above the MID detection voltage up to the end of T3A

② $T < T3B$

MUTE OUT not performing delay MUTE OUT up to the end of T3A in (1).

Operation time with the external capacity (condenser) connected to $\tau 3$:

T3A: about 30ms at 0.1μ

T3B: about 30ms at 0.1μ ($T3A = T3B$)

- * When L is input to the MUTE terminal, with MUTE OUT OFF and BU and ACC between HI1 and HI2 detection voltages, MUTE OUT is turned ON. When the MUTE terminal changes from L to H in this state, MUTE OUT remains ON. This ON state is canceled and MUTE OUT is turned OFF when BU and ACC rise above the HI1 detection voltage.

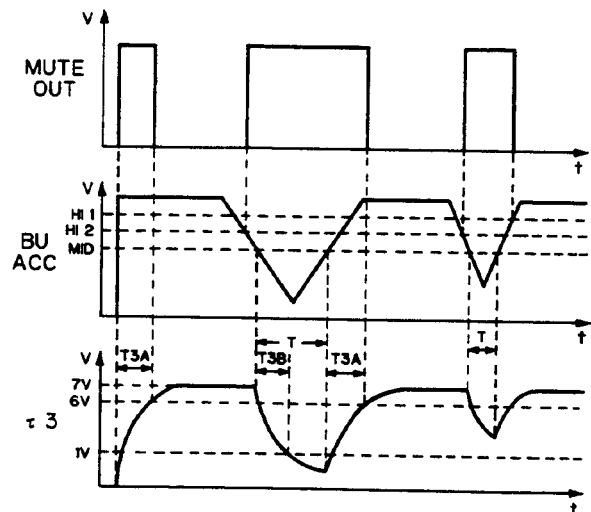
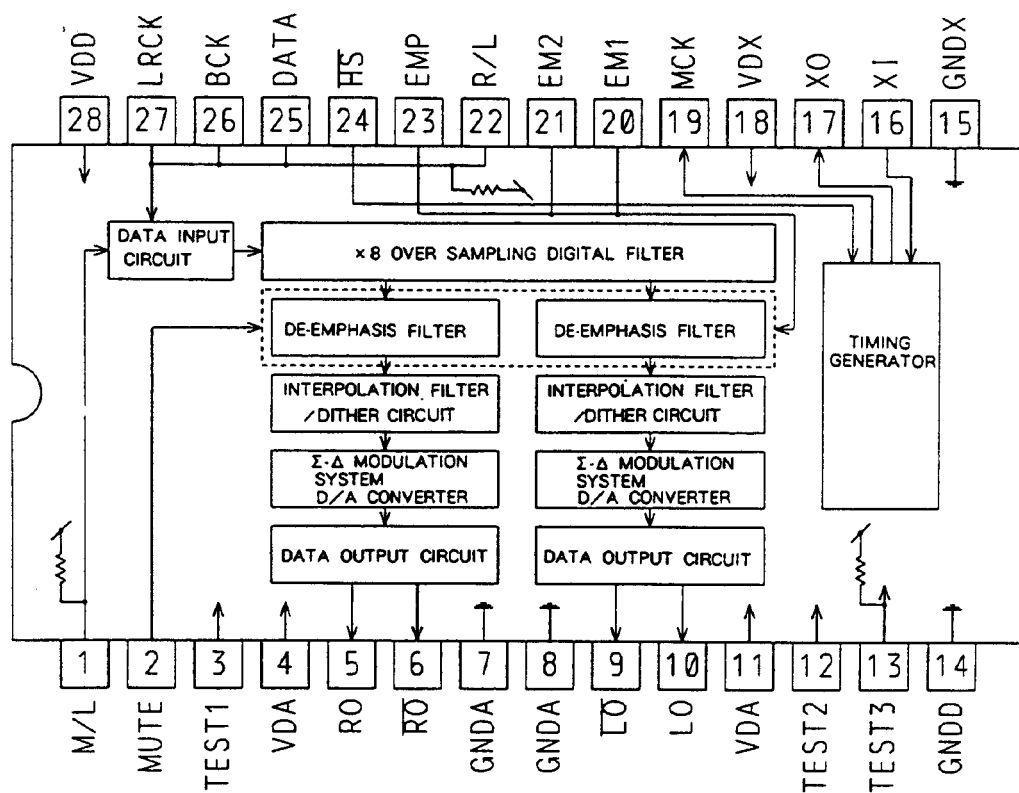
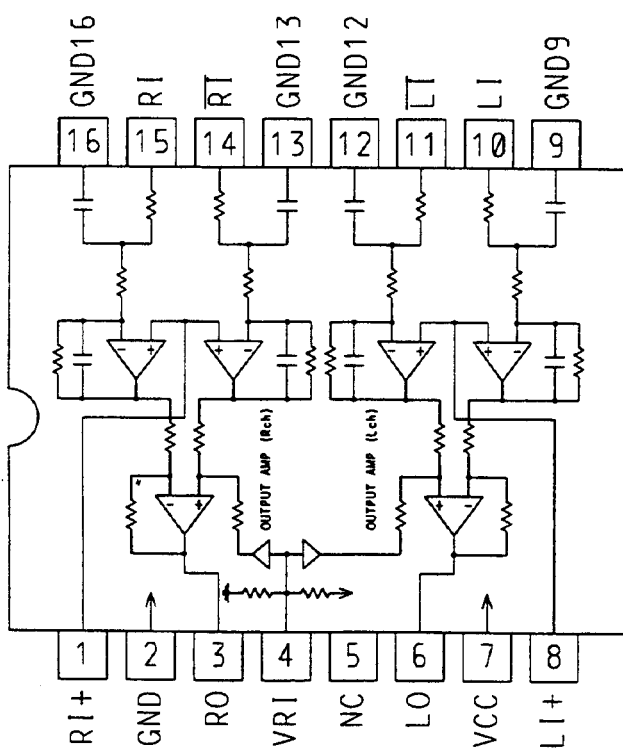


Fig. 47

IC703: TC9237F



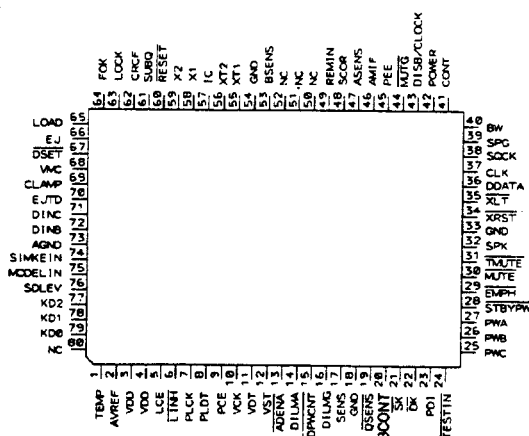
IC704: TA2009F



* IC751: PD4306

IC's marked by * are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.



Pin Functions (PD4306)

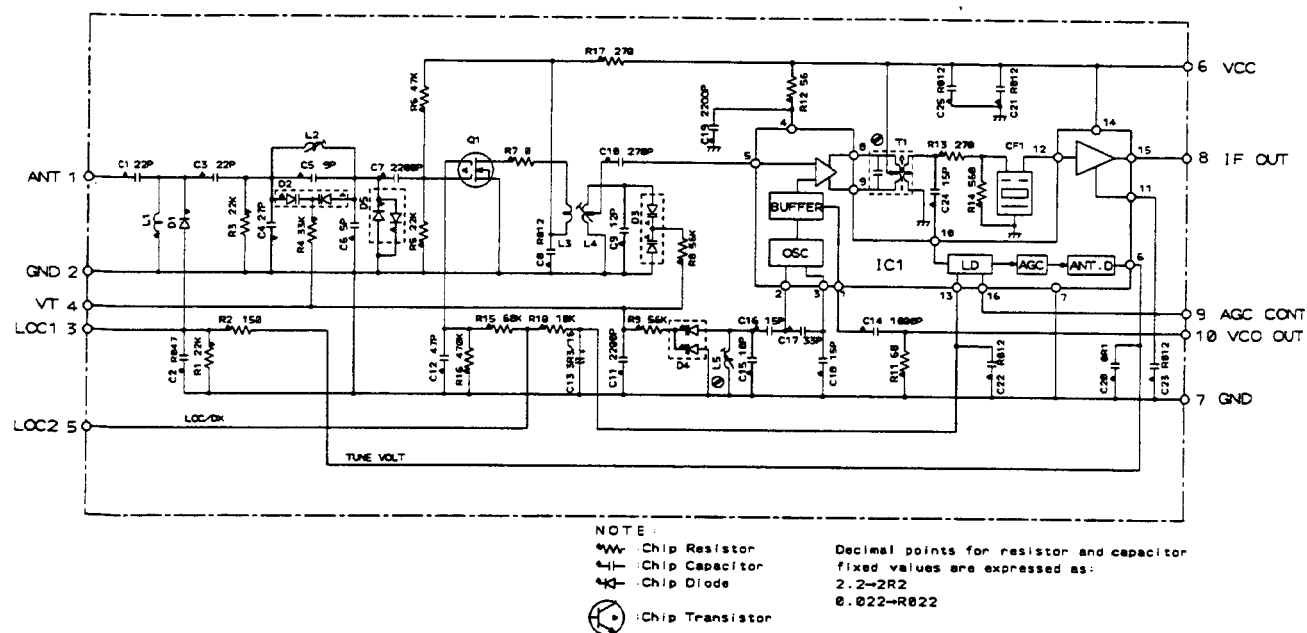
Pin No.	Pin Name	I/O	Output Format	Function and Operation	Standby	Reset
1	TEMP	Input		High-temperature stop detection/stop input L: HOT state		
2	AVREF	Input		A/D converter reference voltage H: A/D converter enable		
3	VDD			VDD		
4	VDD			VDD		
5	LCE	Output	C	IC901 (LC7582A) chip enable	L	HiZ
6	LINH	Output	C	IC901 (LC7582A) inhibit output	L	HiZ
7	PLCK	Output	C	PLL (IC501), LCD (IC901) common clock output	L	HiZ
8	PLDT	Output	C	PLL (IC501), LCD (IC901) common data output	L	HiZ
9	PCE	Output	C	IC501 (LC7218M) chip enable	L	HiZ
10	VCK	Output	C	IC901 (LC7582A) clock output	L	HiZ
11	VDT	Output	C	IC901 (LC7582A) data output	L	HiZ
12	VST	Output	C	IC901 (LC7582A) strobe output	L	HiZ
13	ADENA	Output	C	AVREF control output H: Standby	H	HiZ
14	DILMA	Output	C	Dual illumination amber output H: Amber lamp ON	Keep	HiZ
15	PWCNT	Output	C	Grill power control output H: Standby/detach	H	HiZ
16	DILMG	Output	C	Dual illumination green output H: Green lamp ON	Keep	HiZ
17	SENS	Input		CD servo, internal state monitor input for signal processing LSI		
18	GND			GND		
19	DSSENS	Input		Detach sense input	HiZ	HiZ
20	BCONT	Input		BCONT input	HiZ	HiZ
21	SK	Input		SK signal input L: SK input provided	HiZ	HiZ
22	DK	Input		DK signal input L: DK input provided	HiZ	HiZ
23	PDI	Input		IC501 (LC7218M) data input	HiZ	HiZ
24	TESTIN	Input		Test mode input H: Normal	HiZ	HiZ
25	PWC	Output	C	Power IC (IC961) power selection C output	L	HiZ
26	PWB	Output	C	Power IC (IC961) power selection B output		
27	PWA	Output	C	Power IC (IC961) power selection A output		

Pin No.	Pin Name	I/O	Output Format	Function and Operation	Standby	Reset
28	STBYPW	Output	C	Power IC (IC961) standby control output	L	HiZ
29	EMPH	Output	N _M	Emphasis selection output H: Emphasis ON	H	HiZ
30	MUTE	Output	N _M	Line mute output	RUP-H	HiZ
31	TMUTE	Output	N _M	Tuner mute output	RUP-H	HiZ
32	SPK	Output	N _M	Spindle kick control output H: Kicking, braking	L	HiZ
33	GND			GND		
34	XRST	Output	N _M	IC701 (CXD1167Q) reset output L: Reset	L	HiZ
35	XLT	Output	N _M	IC701 (CXD1167Q) serial data latch output	L	HiZ
36	DDATA	Output	N _M	IC701 (CXD1167Q) Serial data output	L	HiZ
37	CLK	Output	N _M	IC701 (CXD1167Q) Serial clock output	L	HiZ
38	SQCK	Output	N _M	Sub-code clock output	L	HiZ
39	SPG	Output	C	Spindle gain selection output L: 8cm, H: 12cm	L	HiZ
40	BW	Output	C	Spindle band selection output L: Searching H: Normal	H	HiZ
41	CONT	Output	C	PWM driver ON/OFF output H: ON	L	HiZ
42	POWER	Output	C	CD + 5V output H: CD power ON	L	HiZ
43	DISB/CLOCK	Output	C	AUX control output/for clock adjustment H: AUX inhibit	L	HiZ
44	MUTG	Output	C	IC701 (CXD1167Q) mute control output L: Mute ON	L	HiZ
45	PEE	Output	C	Key touch peep sound output	L	HiZ
46	AMIF	Input		AMIF count input		
47	ASENS	Input		ACC detection input L: ACC down	HiZ	HiZ
48	SCOR	Input		Sub-code sink input	HiZ	HiZ
49	REMIN	Input		Wireless remote control pulse input	HiZ	HiZ
50~52	NC					
53	BSSENS	Input		BACK UP detection input L: BACK-UP DOWN	HiZ	HiZ
54	GND			GND		
55	XT1	Input		Blank, connected to GND		
56	XT2	Output		Blank		
57	IC			Connected to GND		
58	X1	Input		Oscillator input		
59	X2	Output		Oscillator output		
60	RESET			Reset		
61	SUBQ	Input		Sub-code data input	HiZ	HiZ
62	CRCF	Input		CR check input	HiZ	HiZ
63	LOCK	Input		Spindle lock detection input H: Lock	HiZ	HiZ
64	FOK	Input		Focus OK detection input	HiZ	HiZ
65	LOAD	Output	N _M	Loading motor control output	L	HiZ
66	EJ	Output	N _M	Loading motor driver control output H: Eject	L	HiZ
67	DSET	Output	N _M	Output for disk set LED	RUP-H	HiZ
68	VMC	Output	N _M	Loading motor driver power control output	L	HiZ
69	CLAMP	Input		Disk clamp end detection input L: Clamp over	HiZ	HiZ
70	EJTD	Input		Disk ejection end detection input L: Eject over	HiZ	HiZ
71	DINO	Input		Disk ejection detection C input	HiZ	HiZ

Pin No.	Pin Name	I/O	Output Format	Function and Operation	Standby	Reset
72	DINB	Input		Disk ejection detection B input	HiZ	HiZ
73	AGND			A/D converter GND		
74	SIMKEIN	Input		Tuner destination selection input		
75	MODELIN	Input		Model selection input		
76	SDLEV	Input		SD signal level input H: Strong level broadcast station		
77	KD2	Input		Key return input		
78	KD1	Input		Key return input		
79	KD0	Input		Key return input		
80	NC					

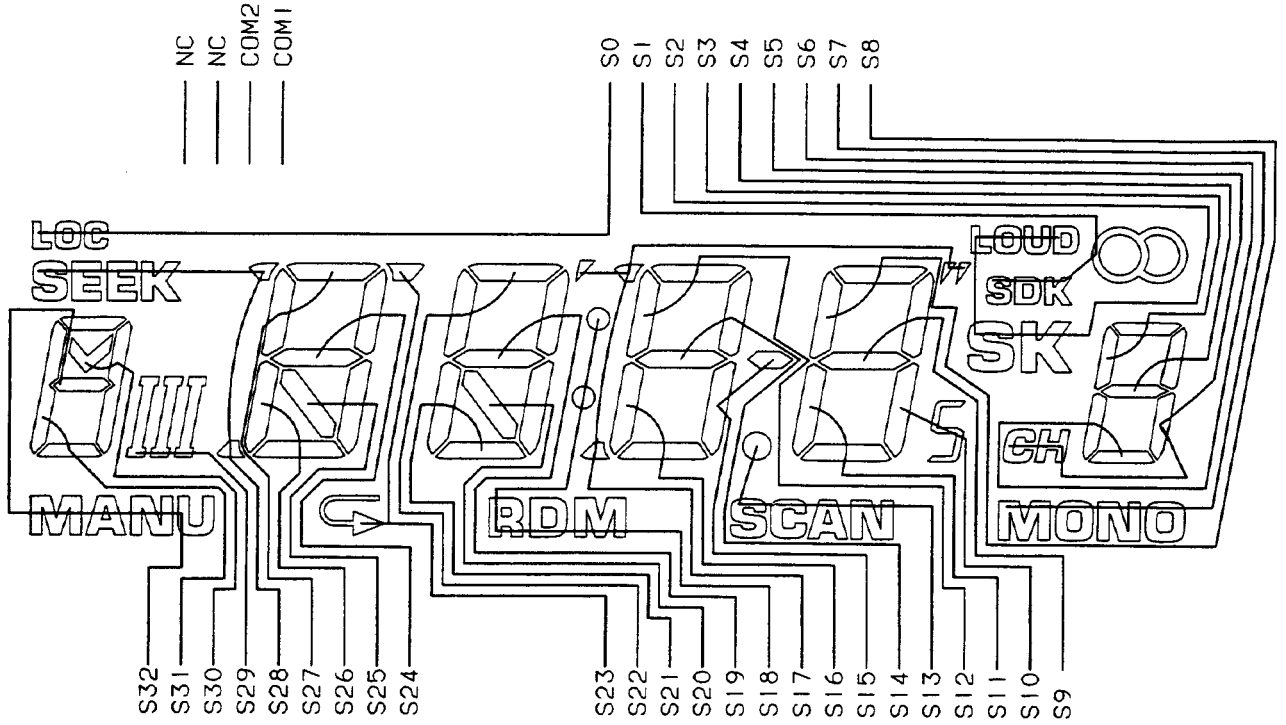
Symbol	Meaning
C	C-MOS
N _M	Neutral resistivity N channel open drain
HiZ	High impedance
RUP-H	With pull-up resistor

• FM Front End (CWB 1035)



• LCD (CAW1074)

SEGMENT



COMMON

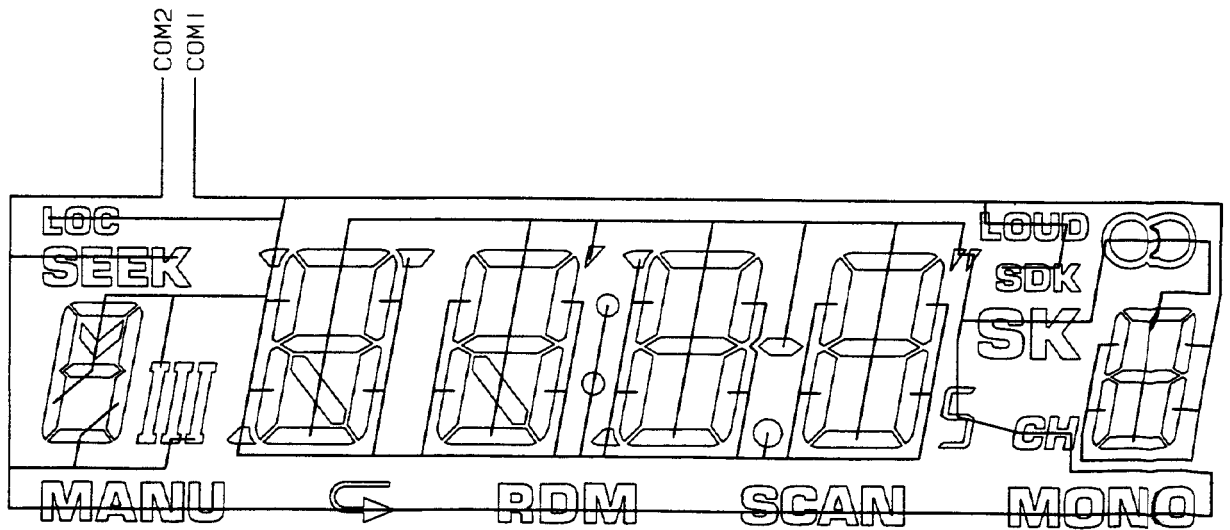
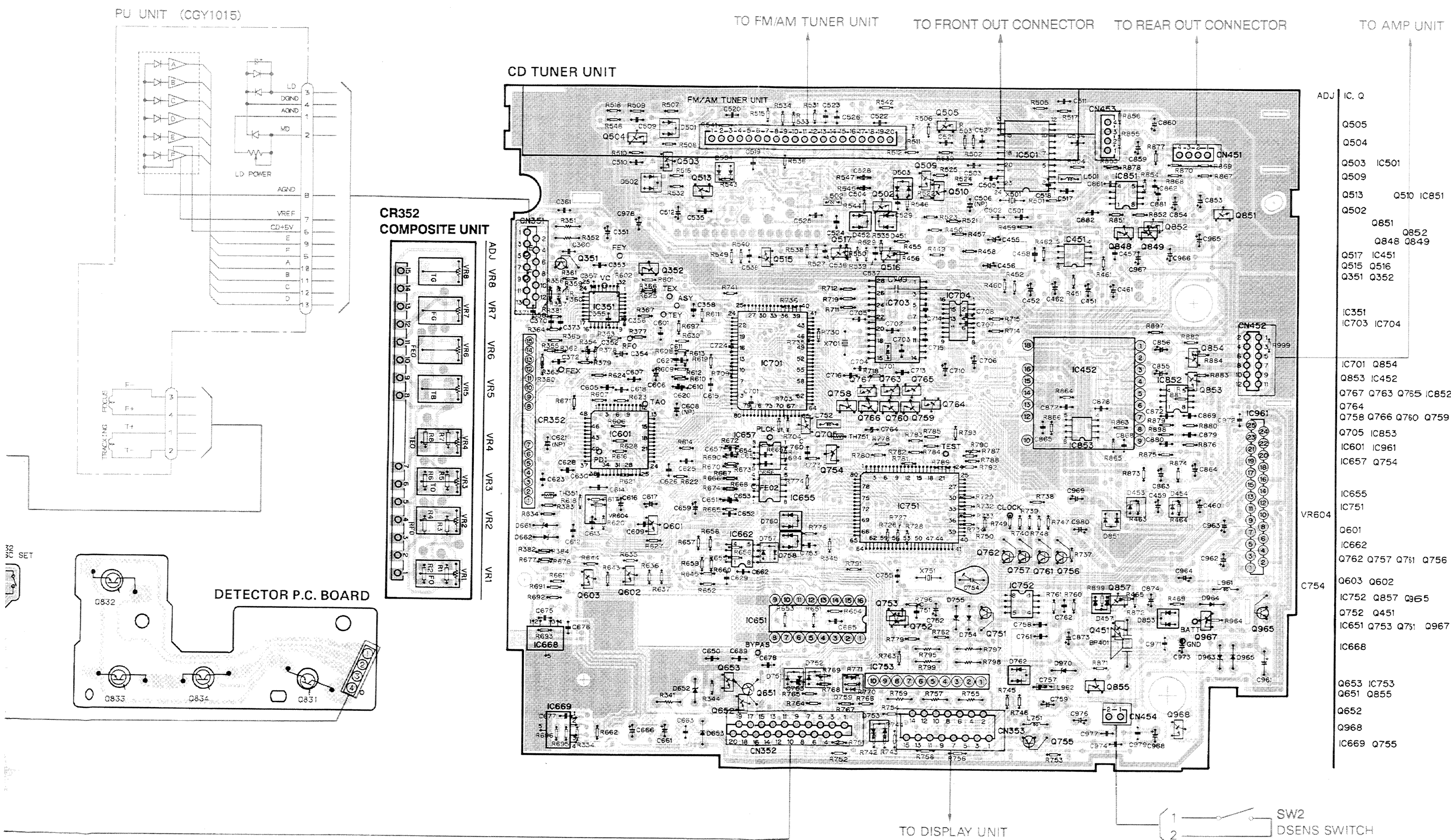


Fig. 48

△



H-760/UC, DEH-710/ES)



12. SCHEMATIC CIRCUIT DIAGRAM

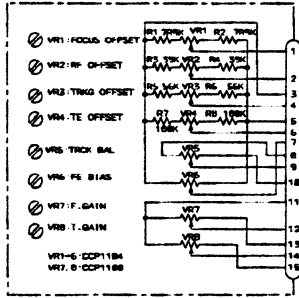
NOTE:
 □ Chip Resistor
 □ Chip Capacitor
 □ Chip Diode
 □ Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as:
 2.2-2R2
 8.022-R022

SWITCHES:
 MECHANISM P.C. BOARD
 SB32 DISC SET SWITCH..... ON-OFF
 CARRIAGE P.C. BOARD
 SB31 HOME SWITCH..... ON-OFF
 The underlined indicates the switch position.

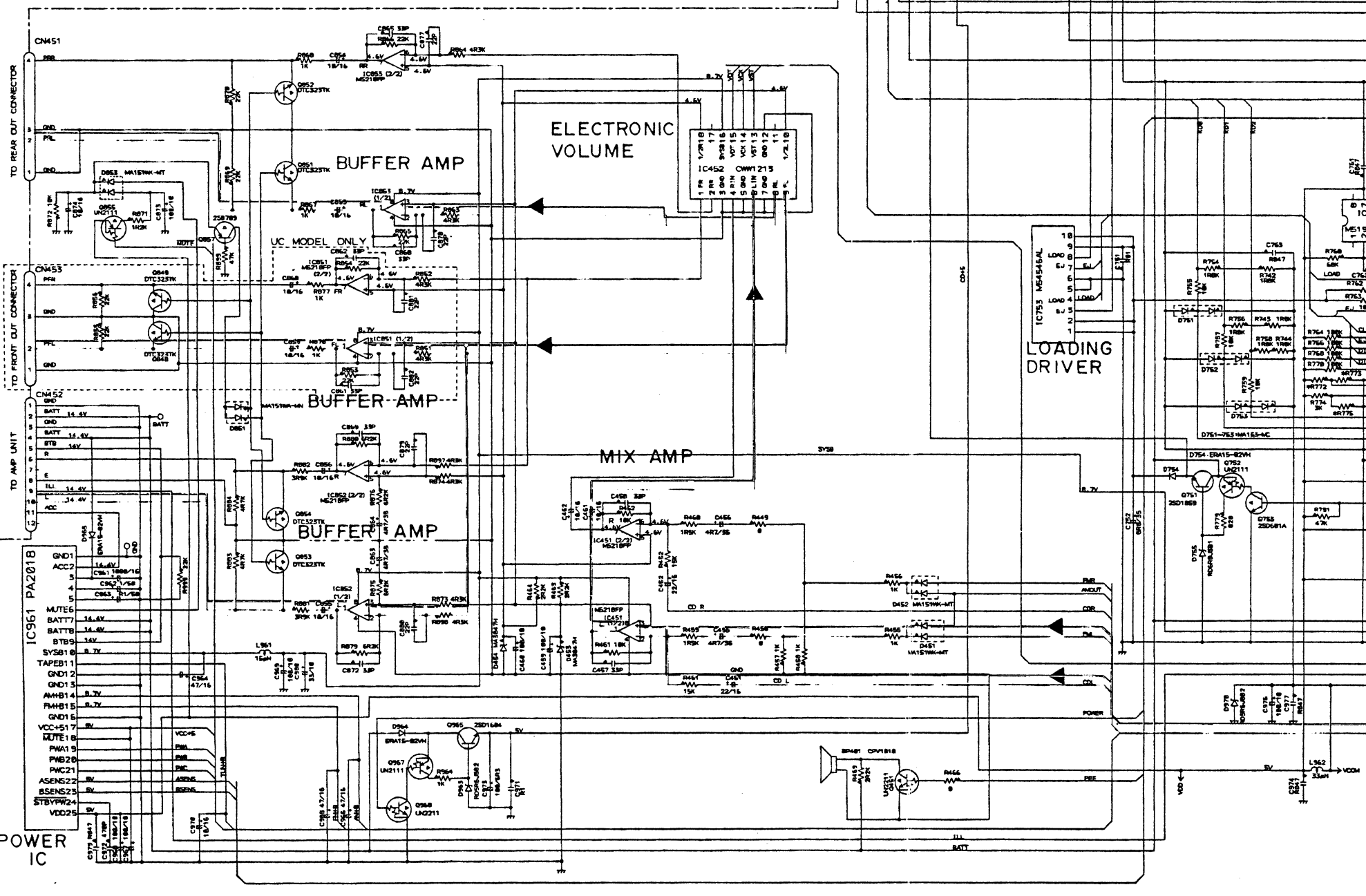
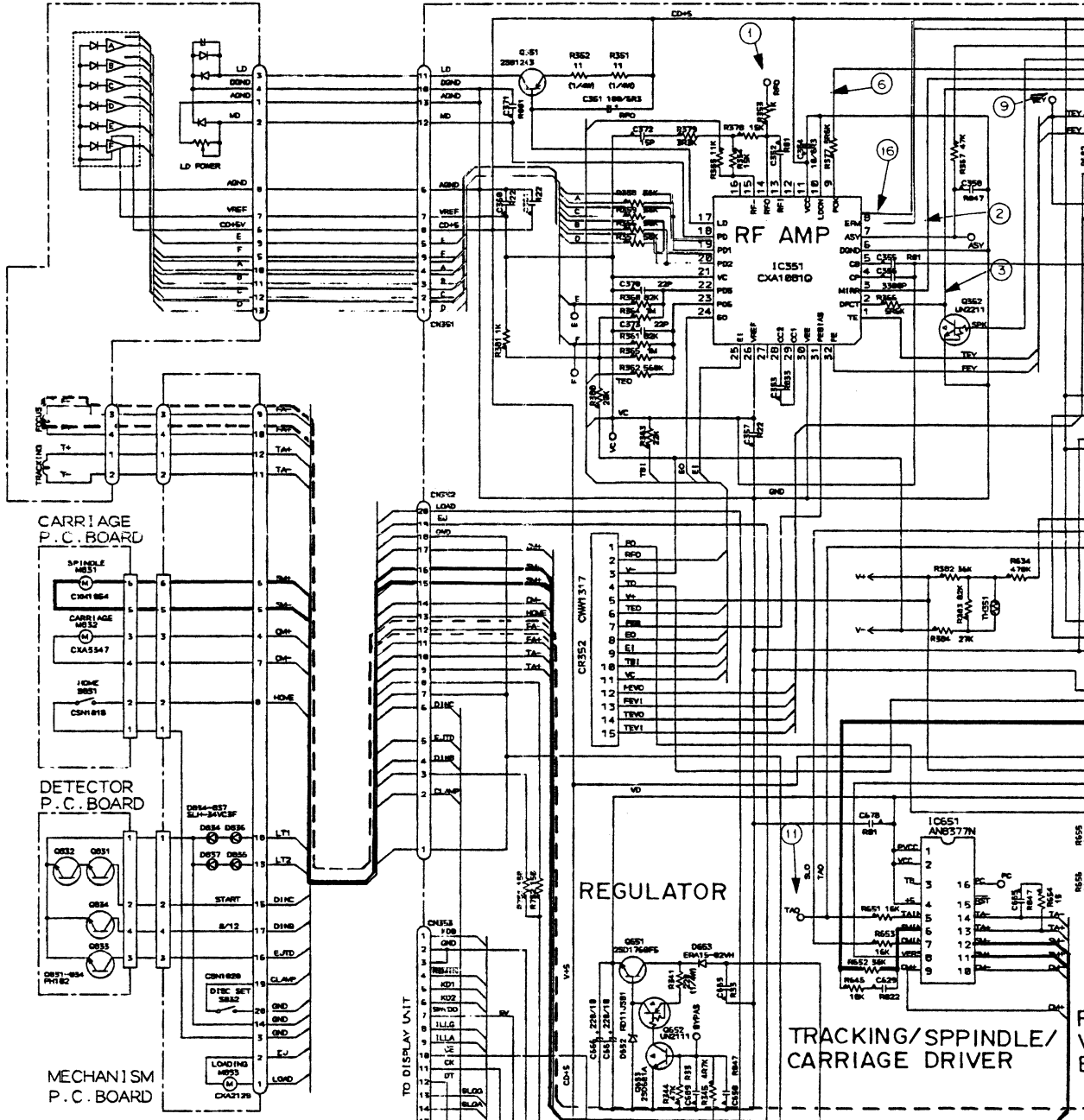
Signal Route
 Focus Servo line
 Spindle Servo line

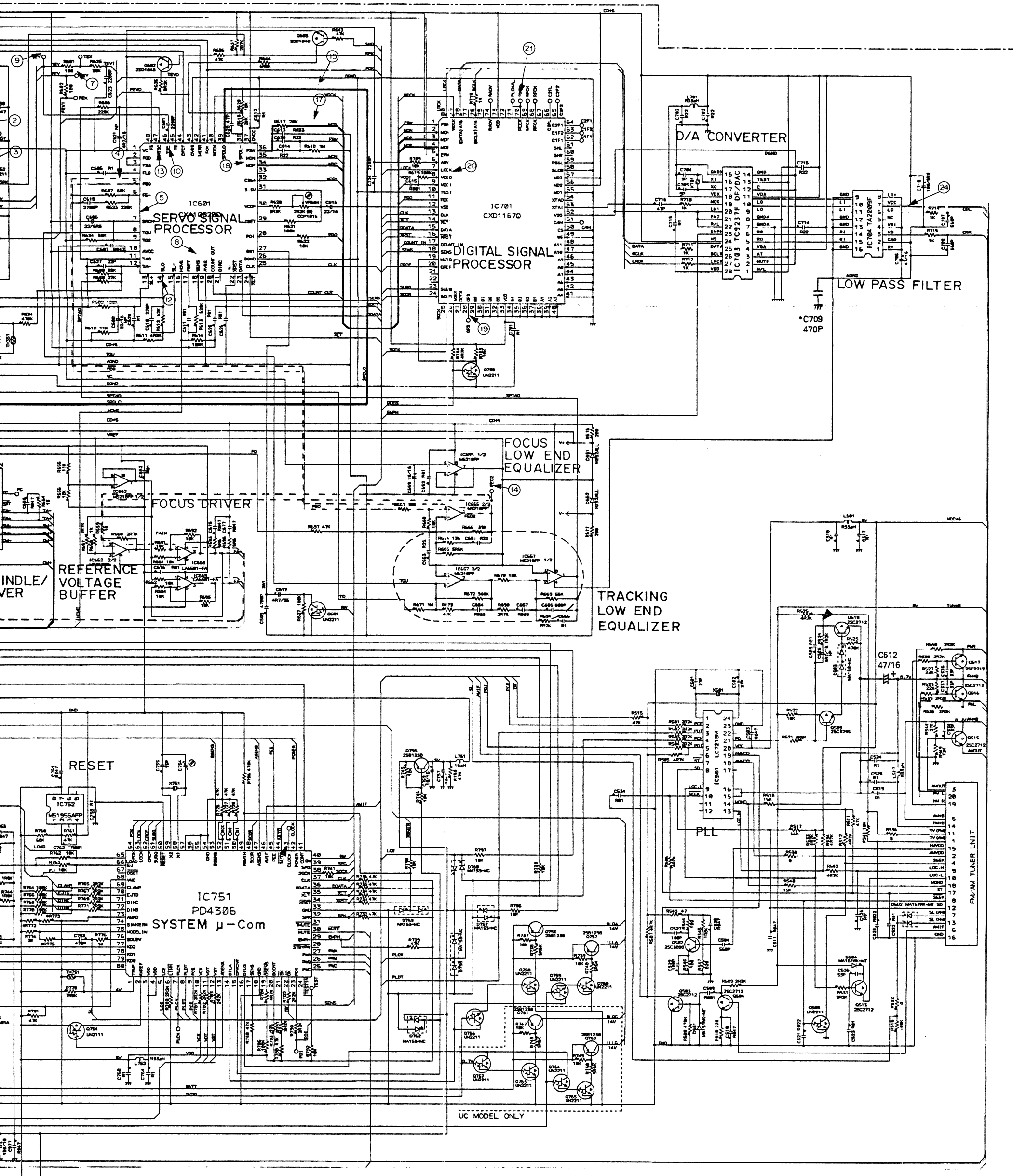
CR352: CWM1317
 COMPOSITE UNIT



PU UNIT (CGY1015)

CD TUNER UNIT



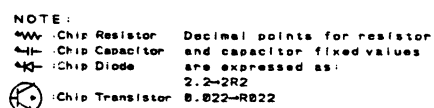


	UC MODEL	US MODEL	ES MODEL
*R772	VACANT	VACANT	3KΩ
*R773	0Ω	0Ω	510Ω
*R775	7R5KΩ	510Ω	510Ω
*C709	470P	470P	VACANT

Fig. 51

11. SCHEMATIC CIRCUIT DIAGRAM (

60/1



SWITCHES:

MECHANISM P.C. BOARD

SB32:DISC SET SWITCH..... ON-OFF

CARRIAGE P.C. BOARD

SB31: HOME SWITCH..... ON-OFF
MISCELLANEOUS

MISCELLANEOUS
SW2: DSENS SWITCH..... ON-OFF

SW2: DSENS SWITCH..... ON-OFF

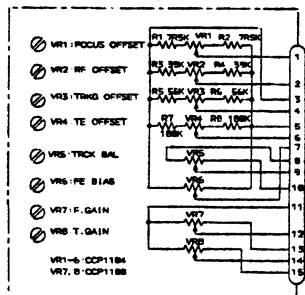
The underlined indicates the switch position.

Signal Route

Focus Servo line

Spindle Servo line

CR352:CWW1317
COMPOSITE UNIT

ELECTRONIC
VOLUME

BUFFER AMP

CH51 53P ☐ 0
BUFFER AMP

TC-325TX C864 4R7/35
BUFFER AM

~~MIX AMP~~

LOADING
DRIVER

TRACKING/SPINDLE/
CARRIAGE DRIVER

REGULATOR

RF AMF
IC351
CXA1081Q

DETECTOR
D.C. BOARD

CARRIAGE
P.C. BOARD

PU UNIT (CGY1015)

CD TUNER UNIT

POWER
IC

*UC, US MODEL

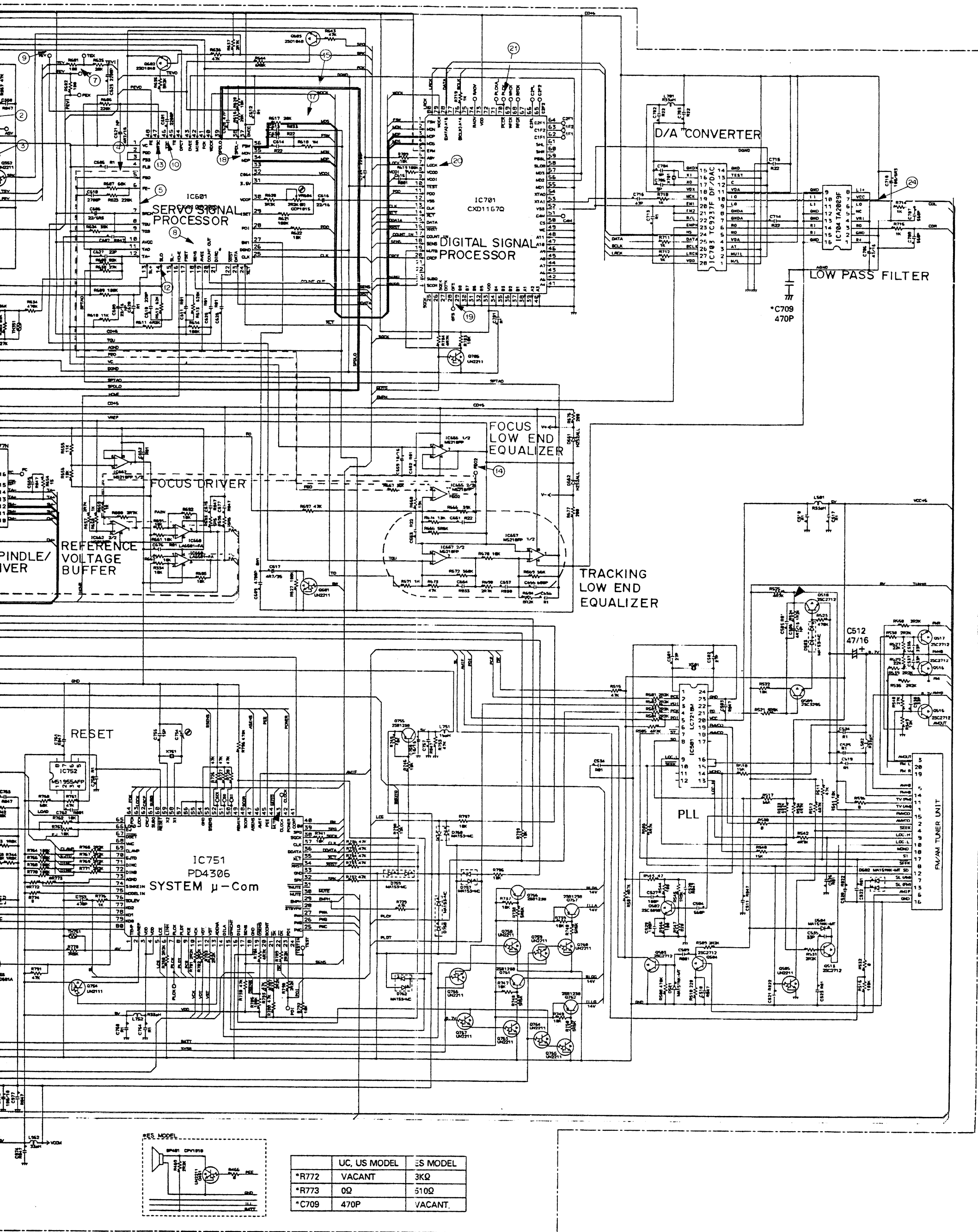


Fig. 50

<(WG)

PU UNIT (CGY1015)

CD TUNER UNIT

CR352
COMPOSITE UNIT

DETECTOR P.C. BOARD

TO FM/AM TUNER UNIT

TO FRONT OUT CONNECTOR

TO REAR OUT CONNECTOR

TO AMP UNIT

ADJ IC, Q

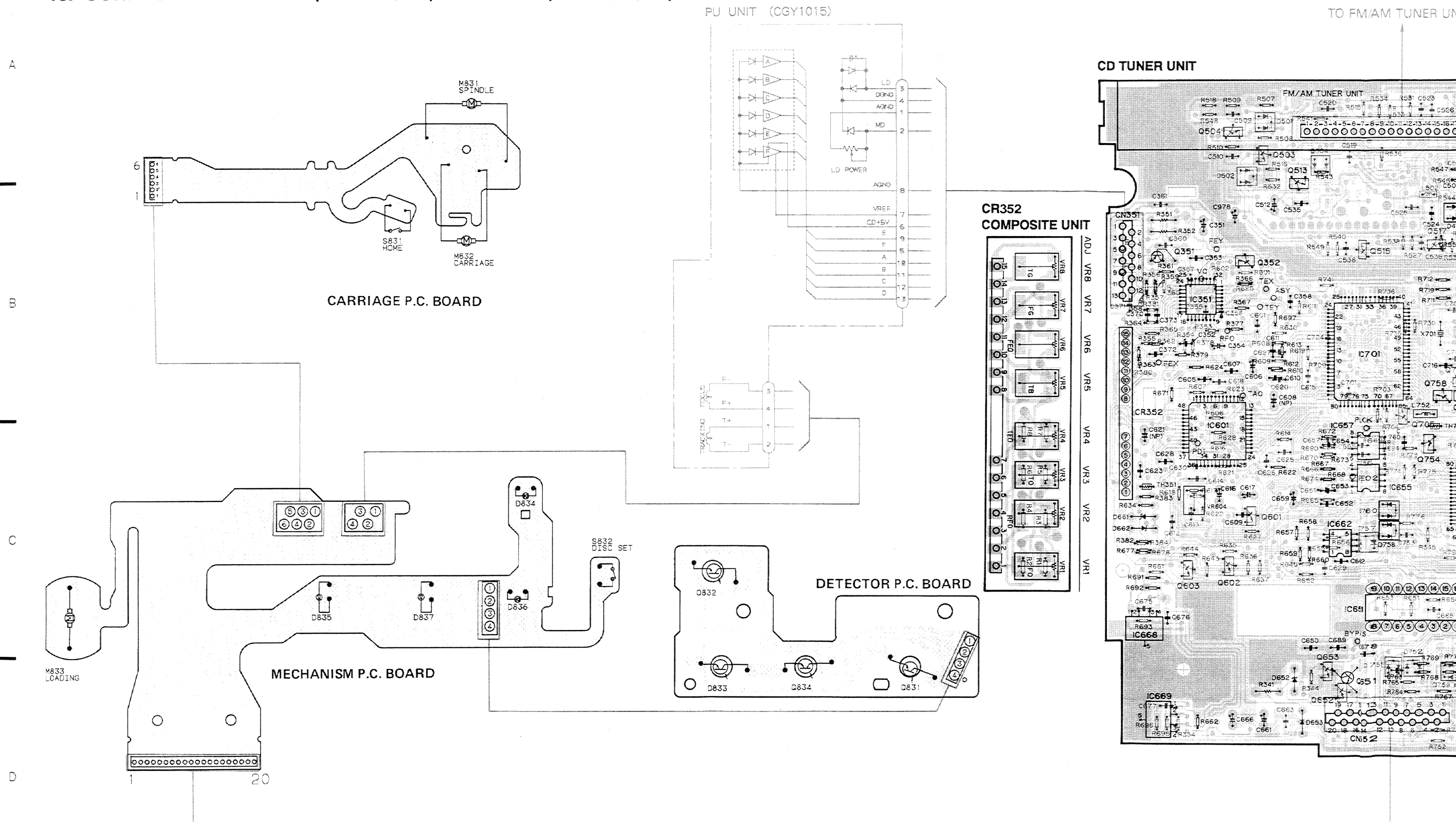
Q505
Q504
Q503 IC501
Q509
Q513 Q514 Q510 IC851
Q502
Q453 Q851
Q508 Q455 Q852
IC502 Q848 Q849
Q517 IC451
Q515 Q516 Q454
Q351 Q352
IC351
IC703 IC704
IC701 Q854
Q853 IC452
Q767 Q763 Q765 IC852
Q764
Q758 Q766 Q760 Q759
Q705 IC853
IC601 IC961
IC657 Q754
IC655
IC751
Q601
IC662
Q762 Q757 Q761 Q756
Q603 Q602
IC752 Q857 Q965
Q752 Q451
IC651 Q753 Q751 Q967
IC668
Q653 IC753
Q651 Q855
Q652
Q968
IC669 Q755

TO DISPLAY UNIT

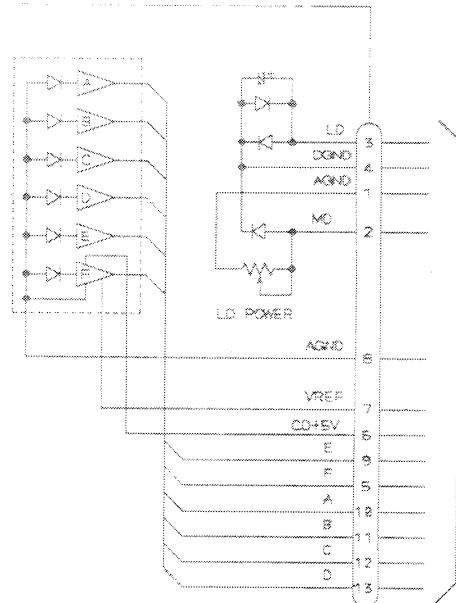
SW2
DSSENS SWITCH

Fig. 53

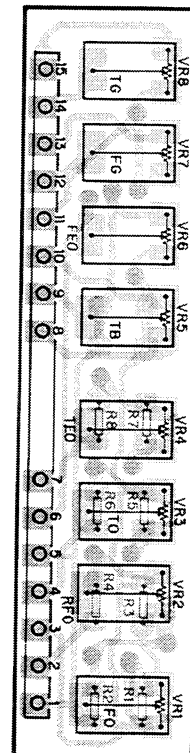
13. CONNECTION DIAGRAM (DEH-660/UC, DEH-630/US, DEH-610/ES)



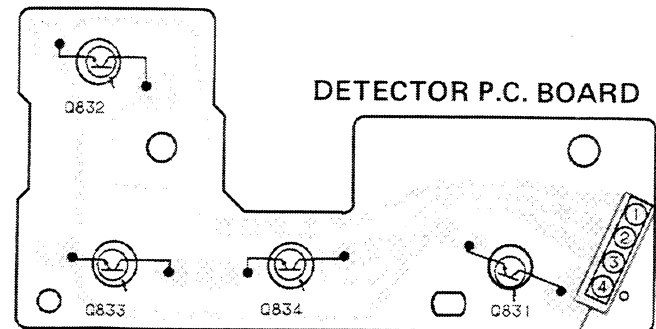
PU UNIT (CGY1015)



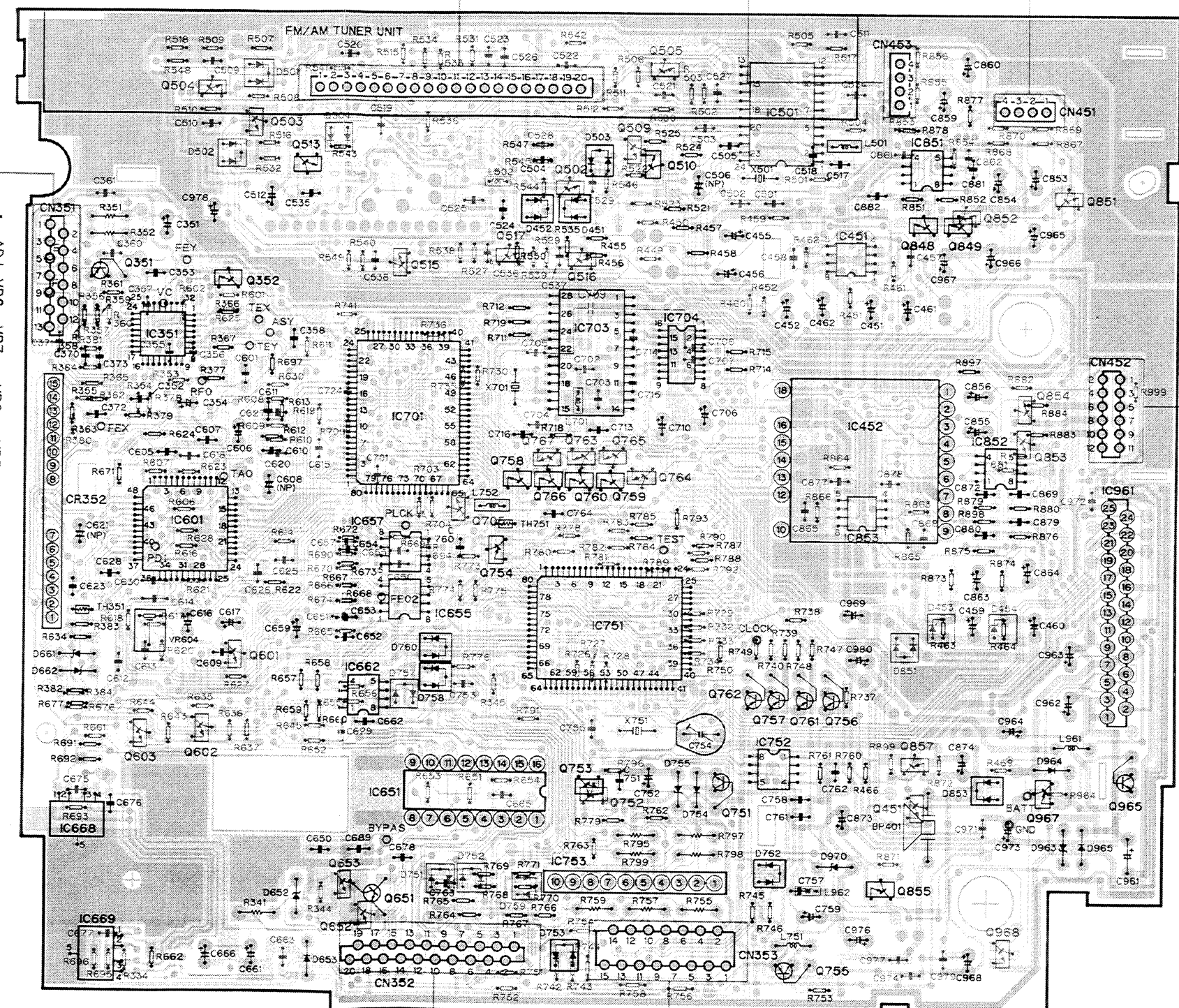
CR352
COMPOSITE UNIT



DETECTOR P.C. BOARD



CD TUNER UNIT



ADJ	IC, Q
Q505	
Q504	
Q503	IC501
Q509	
Q513	Q510 IC851
Q502	
Q851	
Q852	
Q848	Q849
Q517	IC451
Q515	Q516
Q351	Q352
IC351	
IC703	IC704
IC701	Q854
Q853	IC452
Q767	Q763 Q765 IC852
Q764	
Q758	Q766 Q760 Q759
Q705	IC853
IC601	IC961
IC657	Q754
IC655	
IC751	
Q601	
IC662	
Q762	Q757 Q761 Q756
Q603	Q602
IC752	Q857 Q965
Q752	Q451
IC651	Q753 Q751 Q967
IC668	
Q853	IC753
Q651	Q855
Q652	
Q968	
IC669	Q755

Fig. 52

15. SCHEMATIC CIRCUIT DIAGRAM (DEH-770SDK/WG)

A

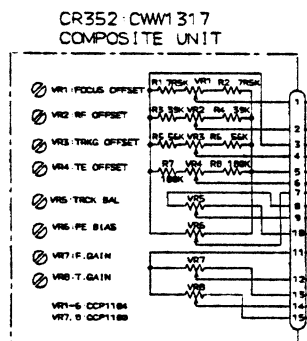
NOTE:
Chip Resistor: Decimal points for resistor and capacitor fixed values are expressed as:
Chip Diode: 2.2-2R2
Chip Transistor: 0.022-R022

SWITCHES:
MECHANISM P.C. BOARD
S032 DISC SET SWITCH..... ON-OFF
CARRIAGE P.C. BOARD
S051 HOME SWITCH..... ON-OFF
MISCELLANEOUS
SW2: DSENS SWITCH..... ON-OFF
The underlined indicates the switch position.

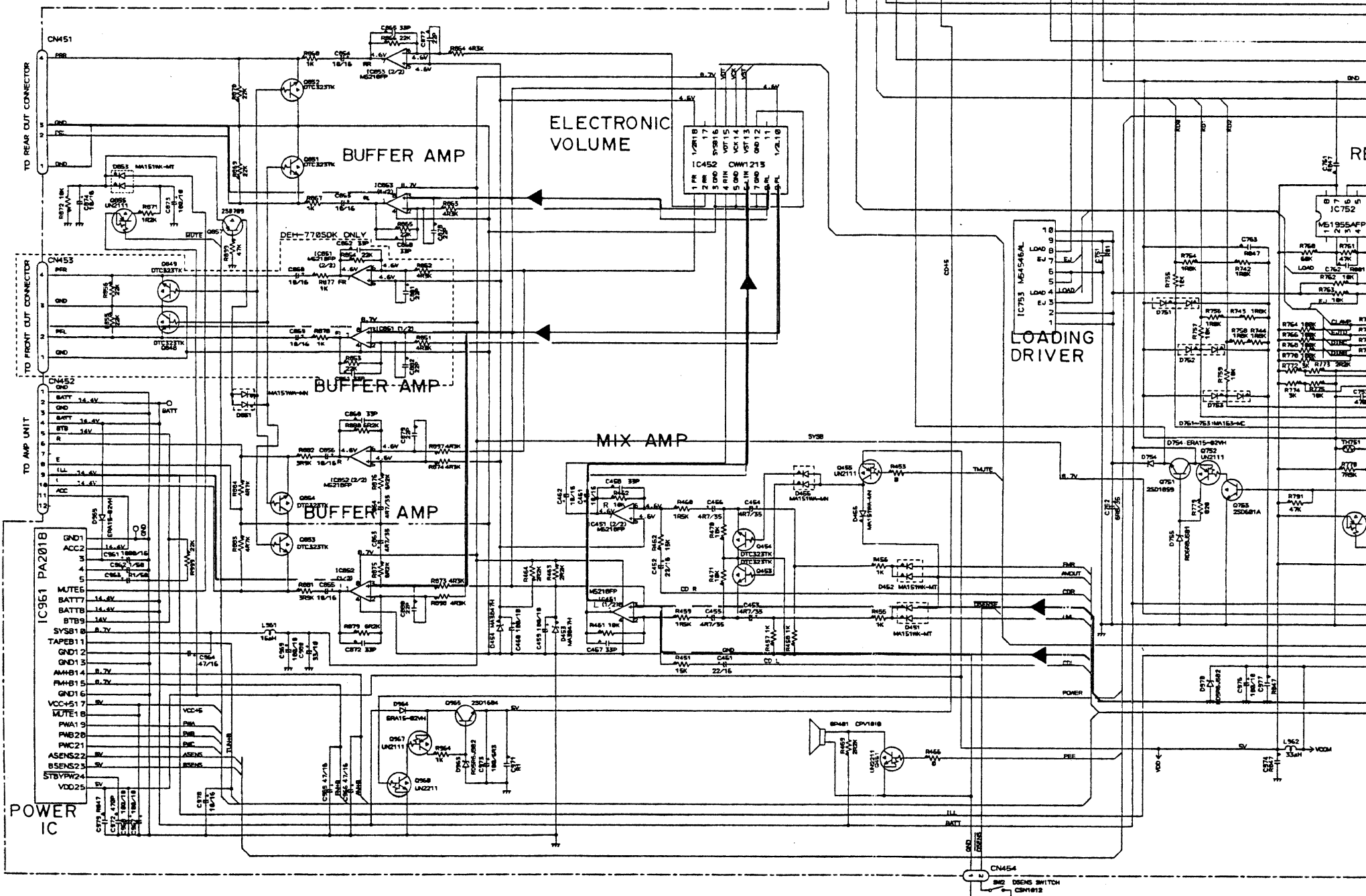
B

Signal Route
Focus Servo line
Spindle Servo line

C



D



E

F

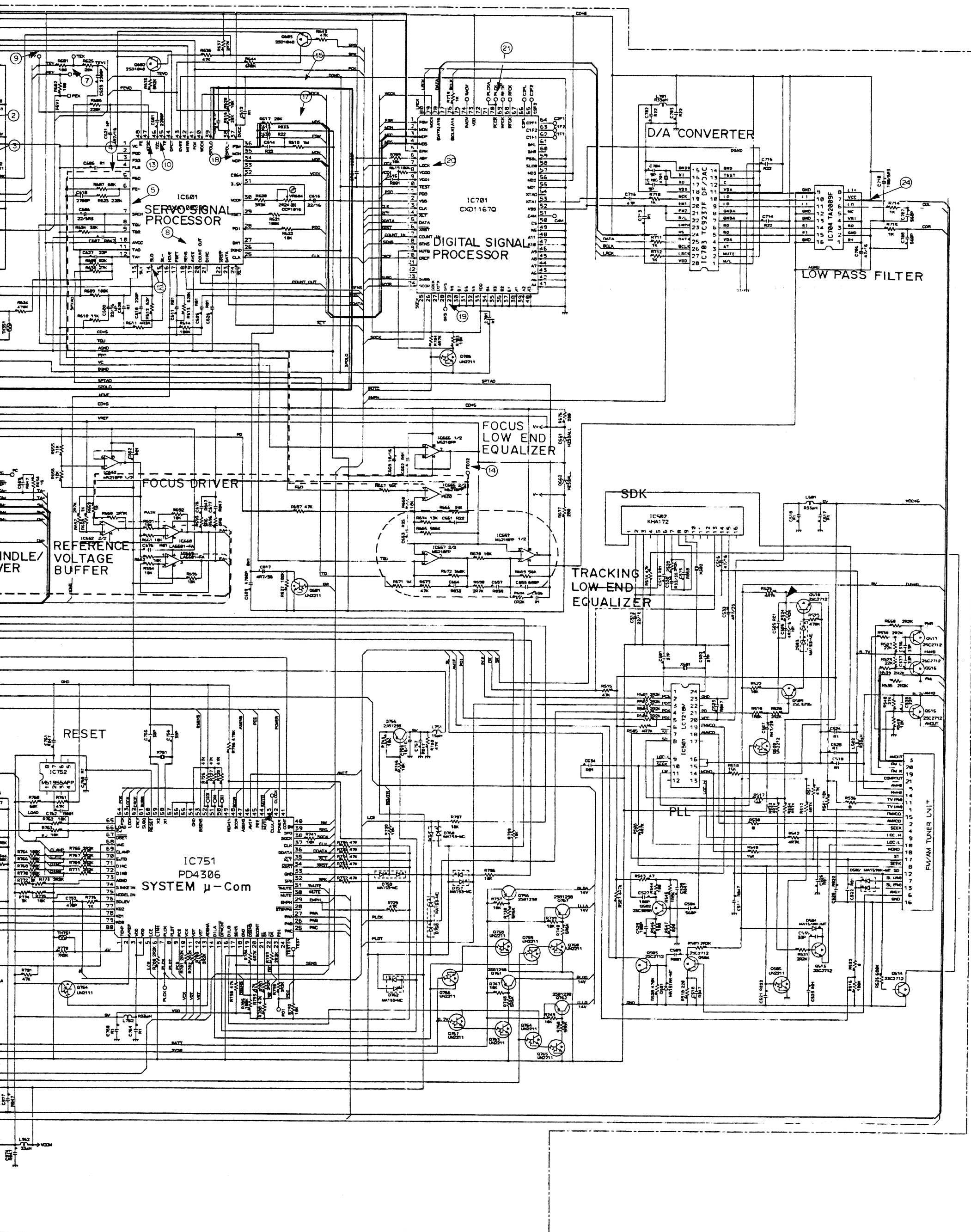
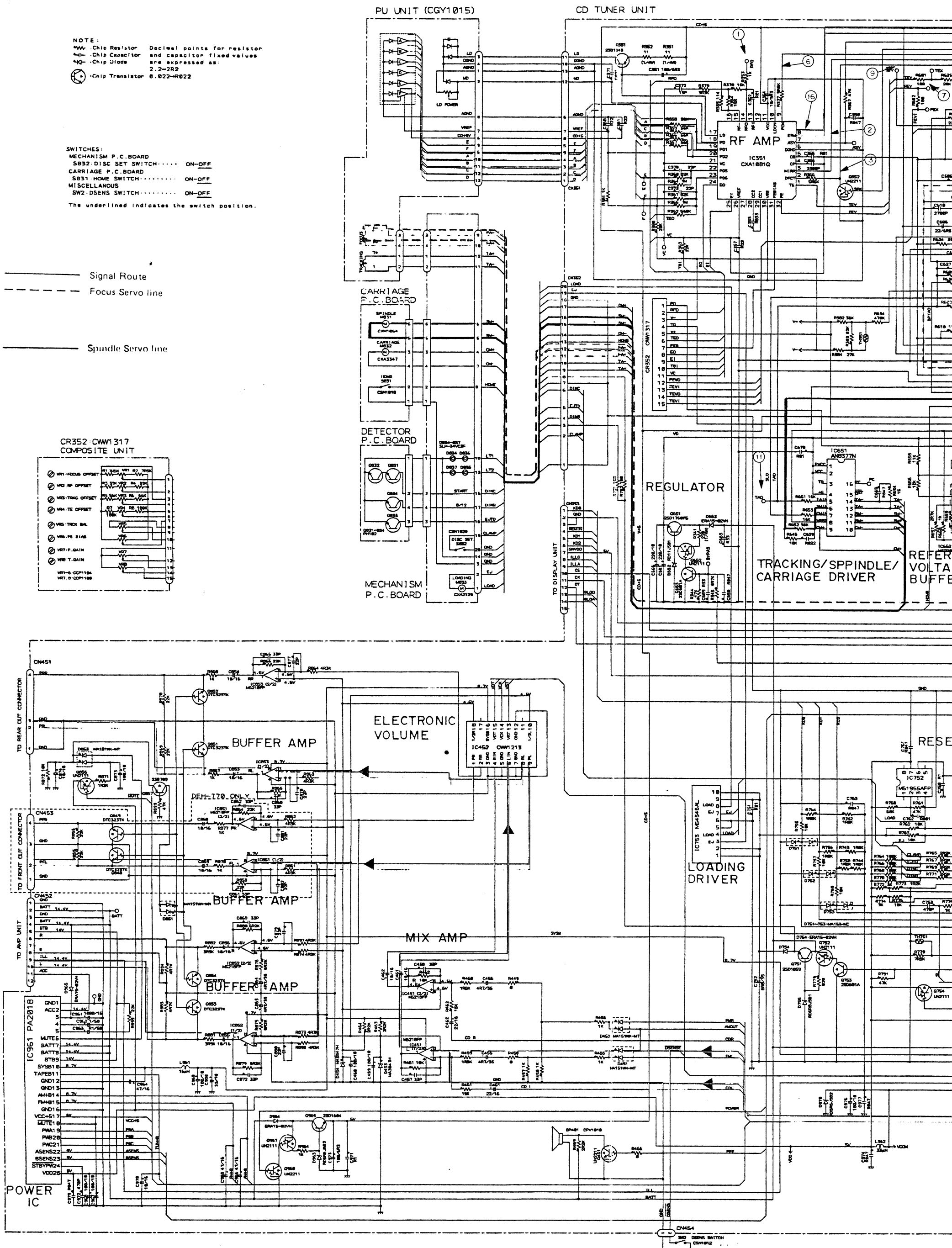


Fig. 54

16. SCHEMATIC CIRCUIT DIAGRAM (DEH-770/EW,



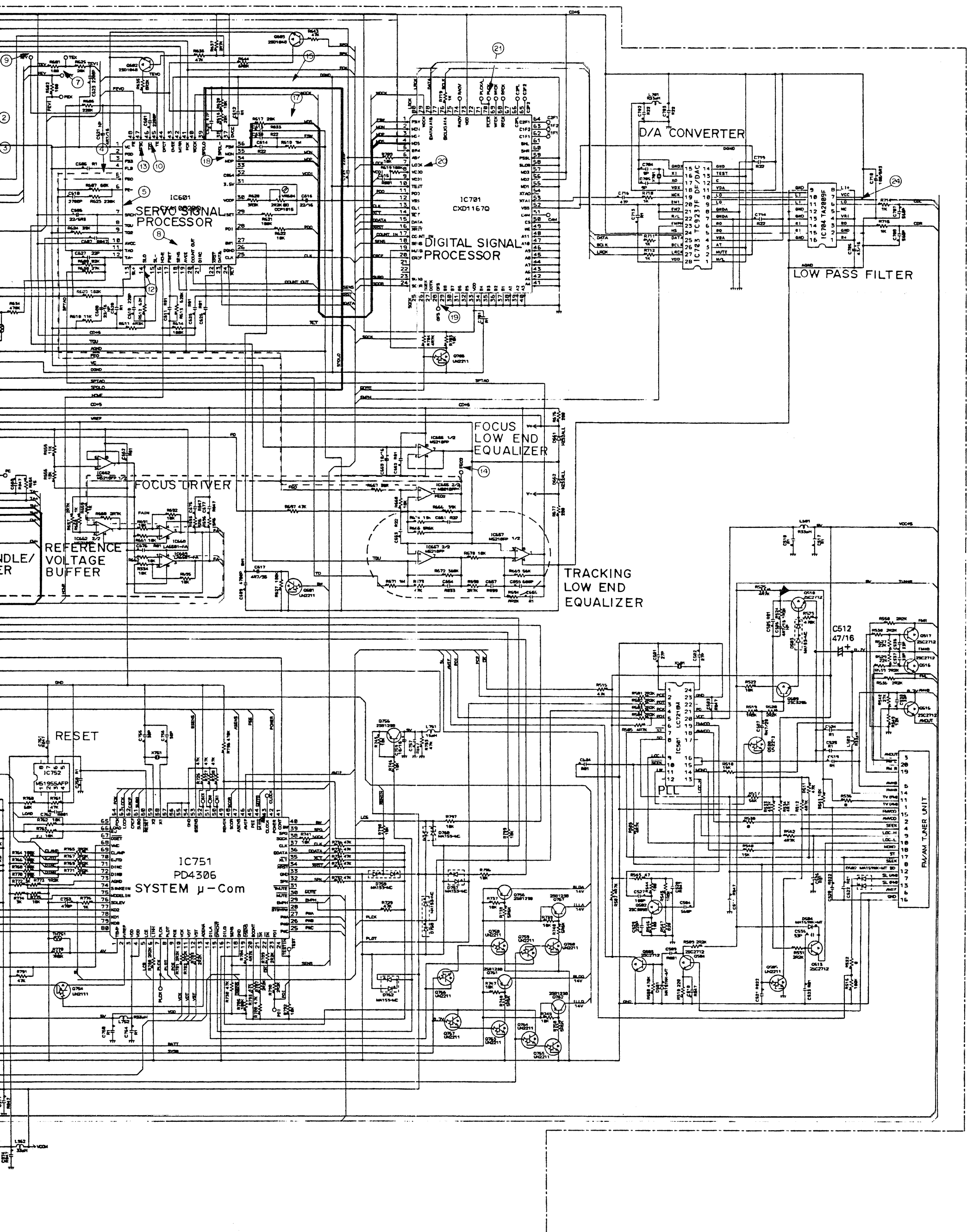


Fig. 55

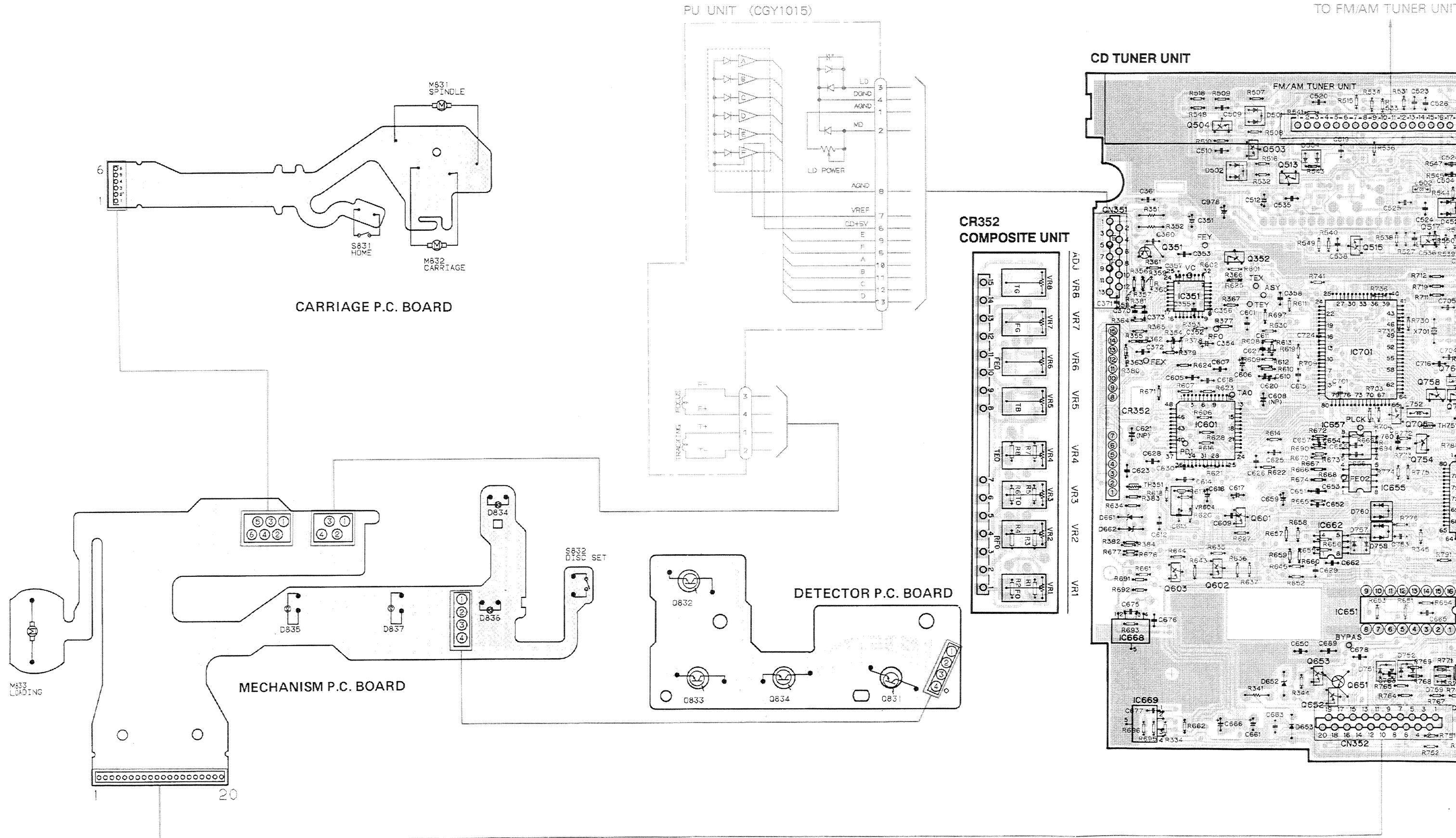
17. CONNECTION DIAGRAM (DEH-770/EW, DEH-760/EW)

A

B

C

D



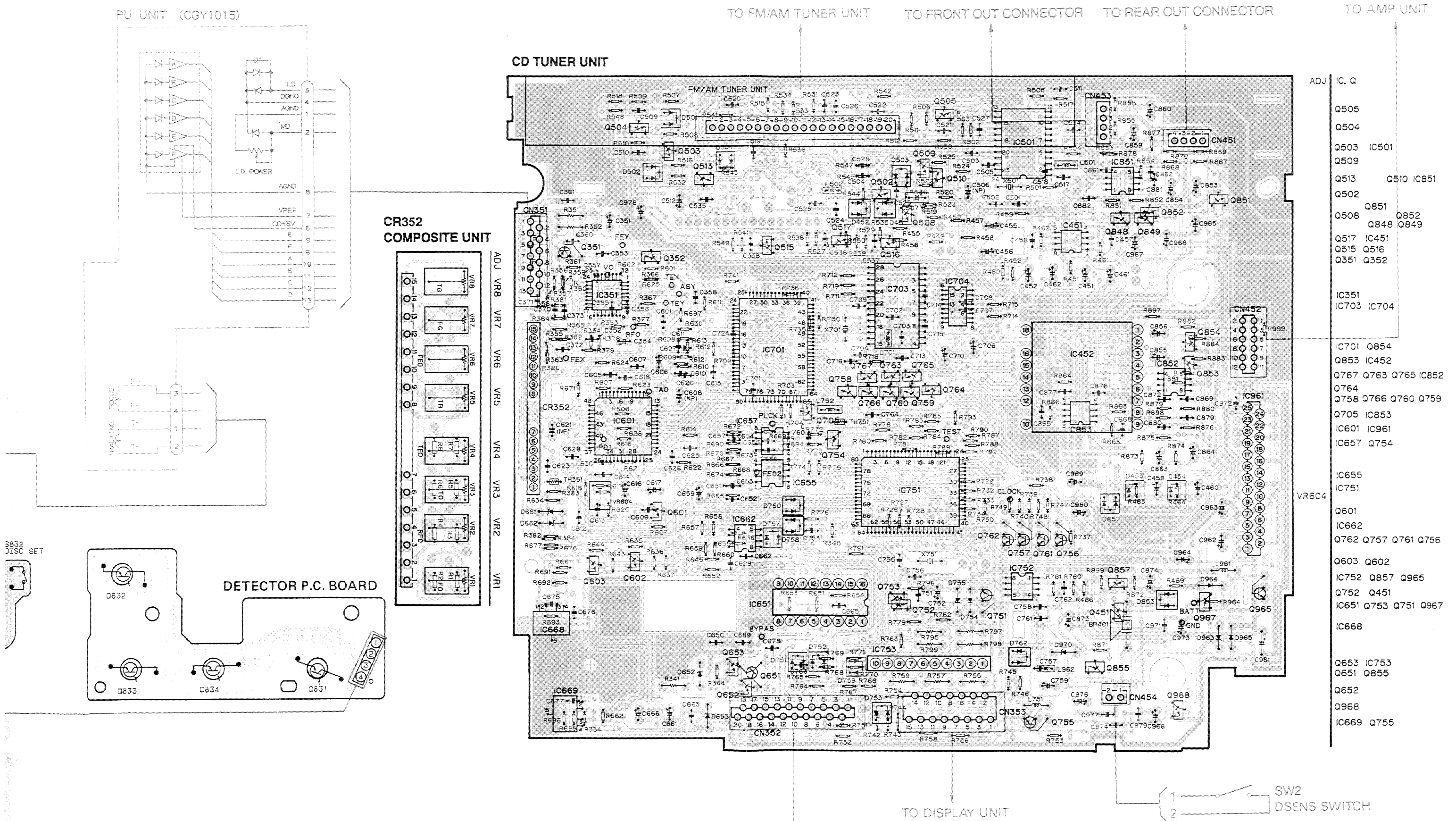


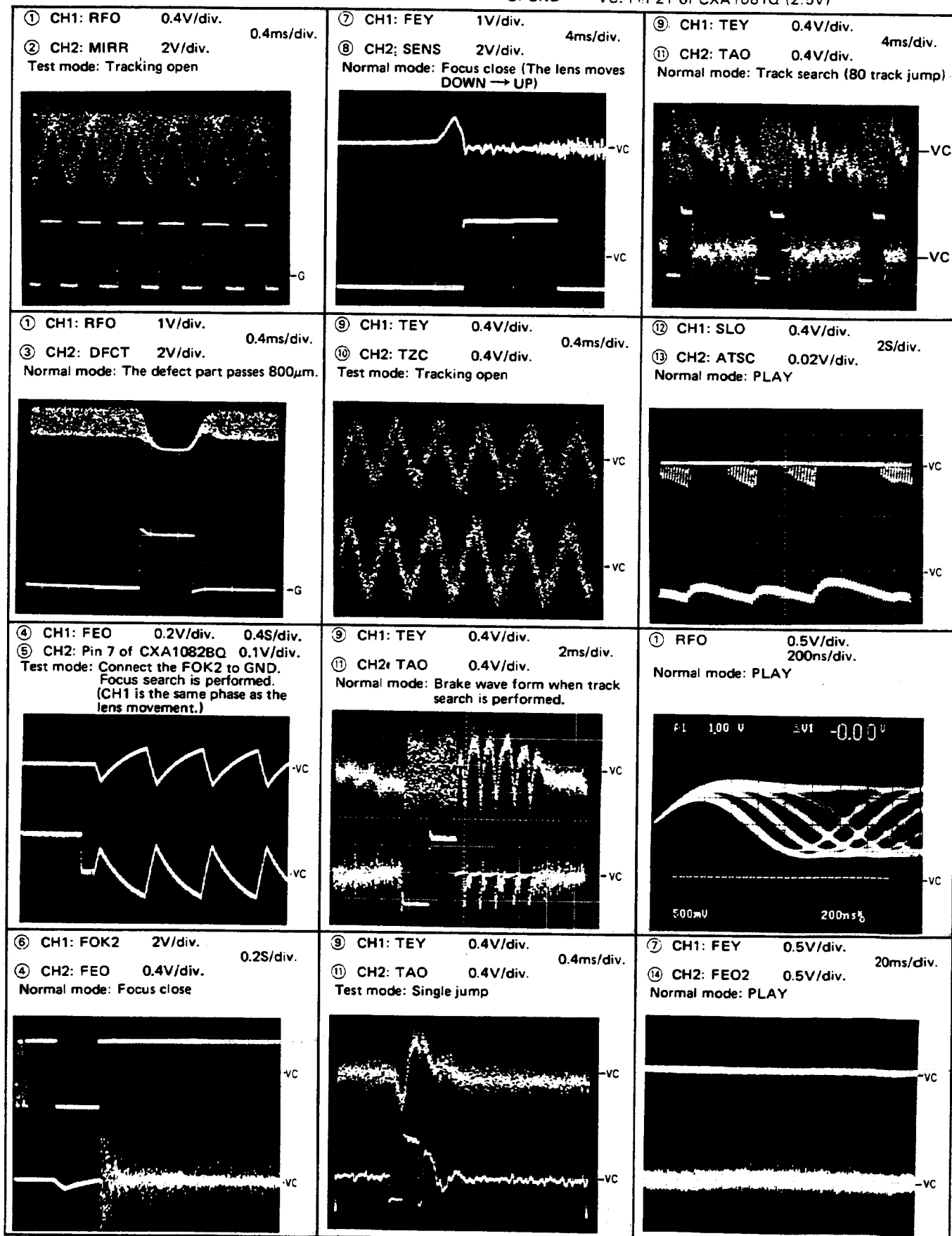
Fig. 56

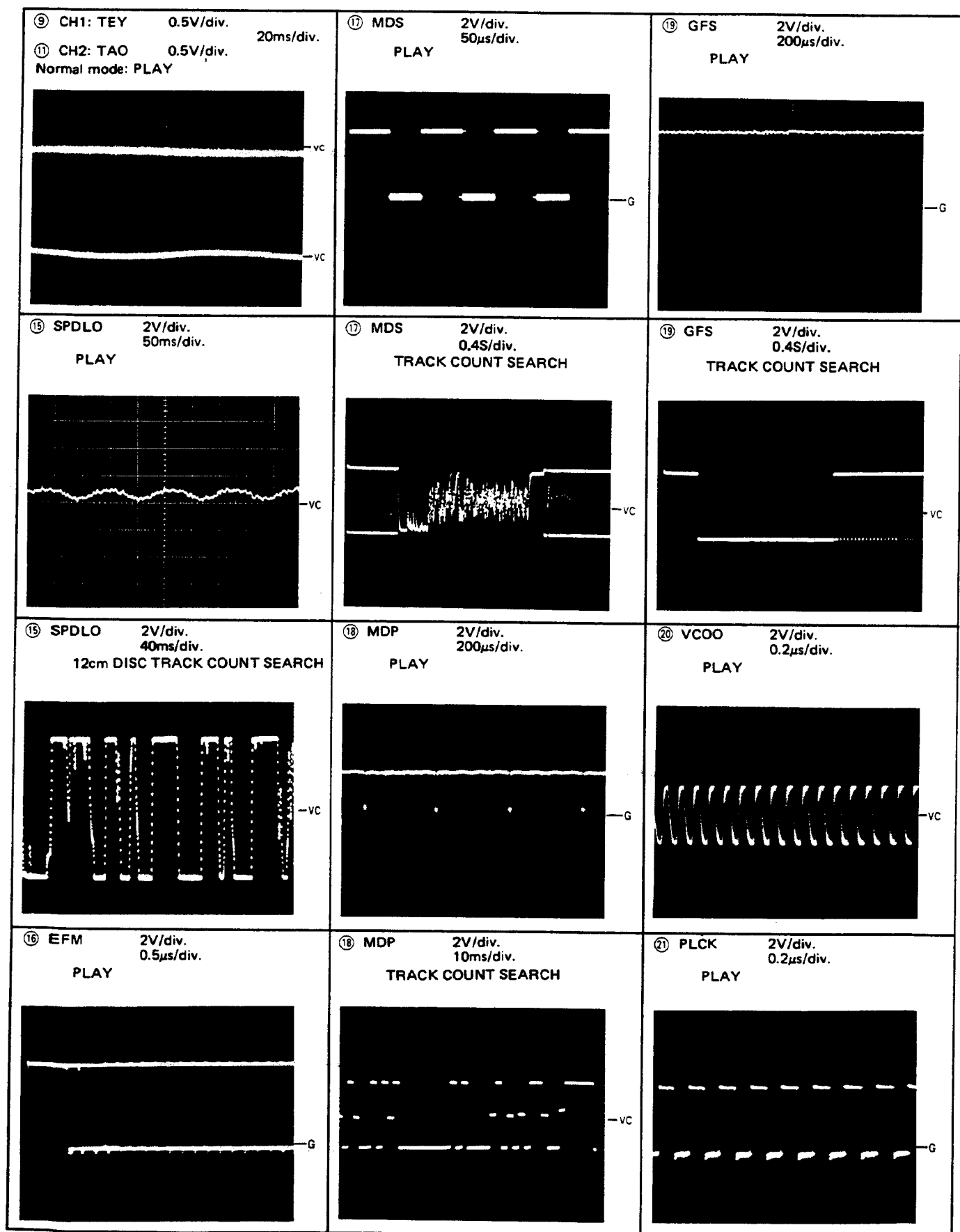
Note: 1. The encircled numbers denote measuring points in the circuit diagram.

2. Reference voltage

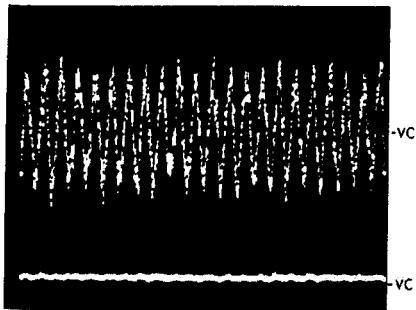
G: GND VC: Pin 21 of CXA1081Q (2.5V)

● Wave Forms

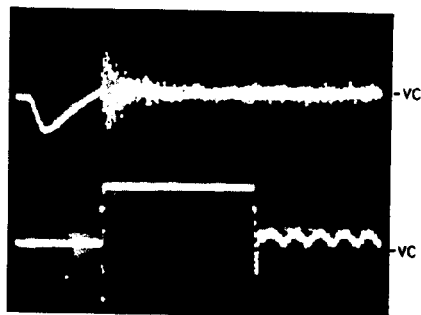




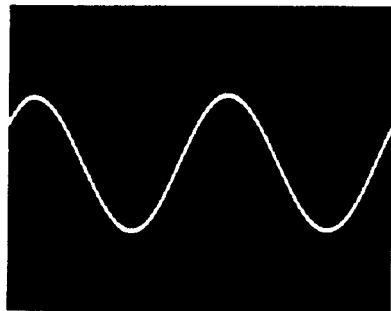
⑨CH1 : TEY 0.4V/div. 0.2ms/div.
 ⑩CH2 : TAO 0.4V/div.
 TRACK COUNT SEARCH



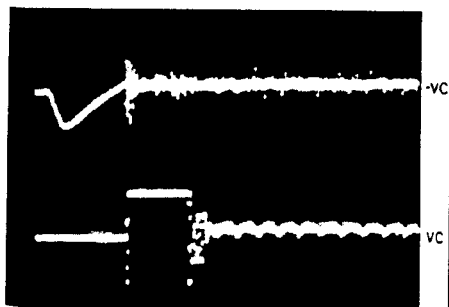
⑭CH1 : FE02 1V/div. 0.2S/div.
 ⑮CH2 : SPDLO 1V/div.
 After 12cm disc loaded



②L or R out 0.5V/div. 0.2ms/div.
 PLAY(When 1kHz FS)



⑭CH1 : FE02 1V/div. 0.2S/div.
 ⑮CH2 : SPDLO 1V/div.
 After 8cm disc loaded

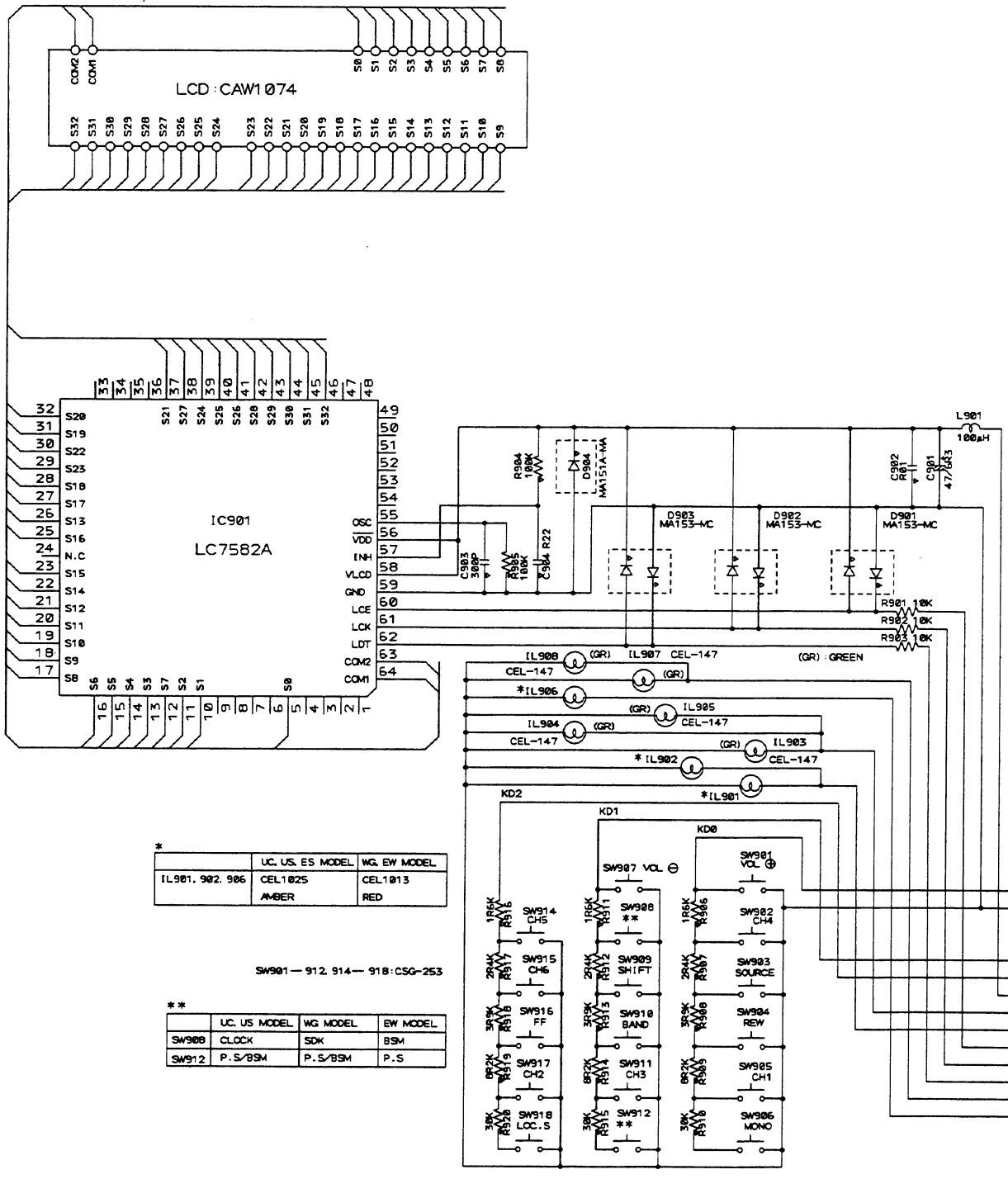


18. CIRCUIT DIAGRAM AND P.C. BOARD PATTERN

● DEH-770/UC, DEH-85/US, DEH-710/ES, DEH-770SDK/WG, DEH-770/EW

NOTE:
Chip Resistor Decimal points for resistor
Chip Capacitor and capacitor fixed values
Chip Diode are expressed as:
Chip Transistor 2.2→2R2
 0.022→R022

DISPLAY UNIT

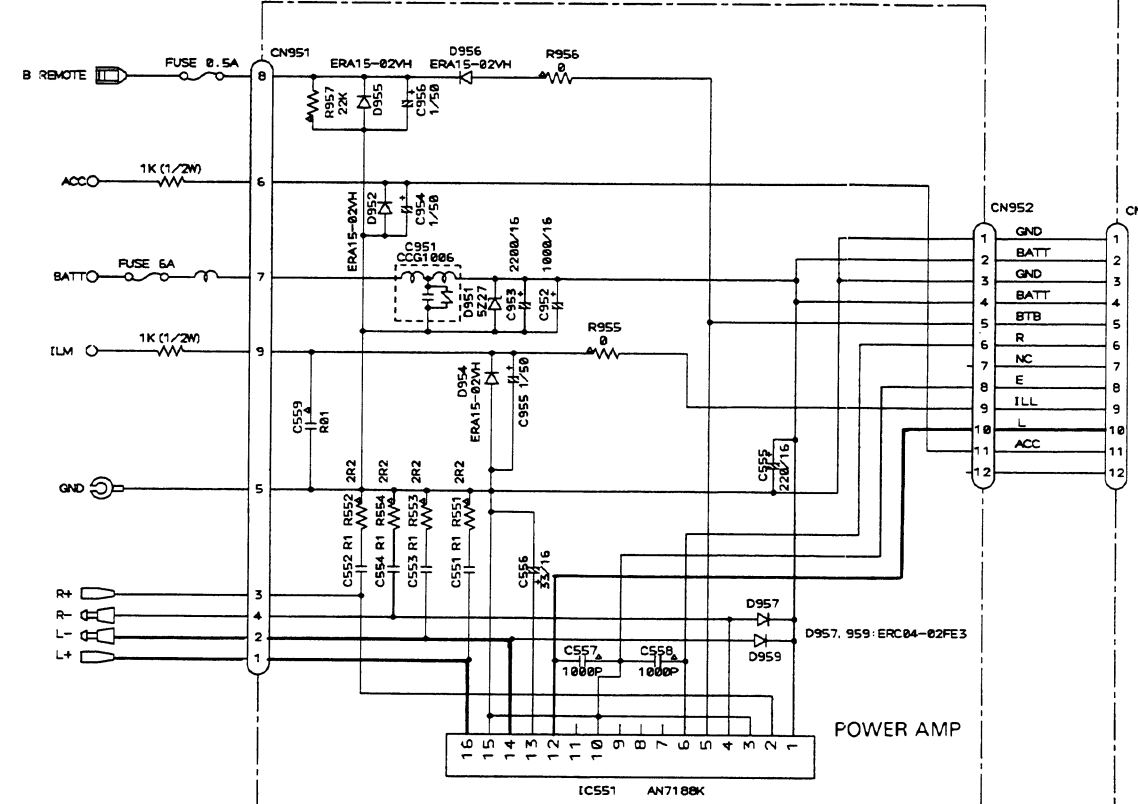


	UC, US, ES MODEL	WG, EW MODEL
IL901, 902, 906	CEL1025	CEL1013
	AMBER	RED

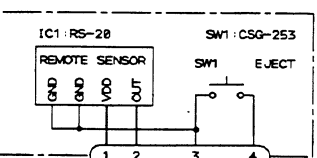
SW901 — 912, 914 — 918: CSQ-253

	UC, US MODEL	WG MODEL	EW MODEL
SW909	CLOCK	SDK	BSM
SW912	P.S./BSM	P.S./BSM	P.S.

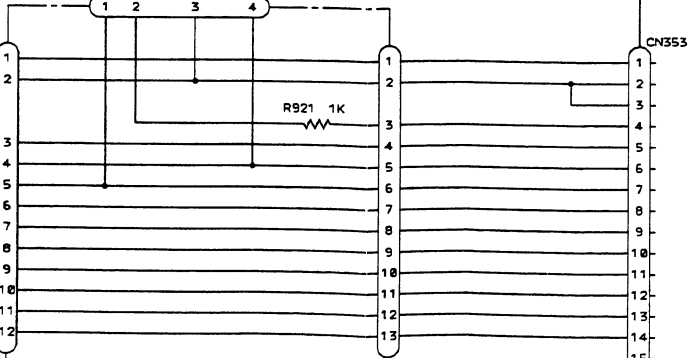
AMP UNIT



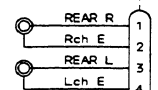
COMPOSITE PART



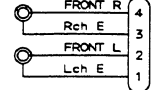
P.C. BOARD



REAR OUT



FRONT OUT

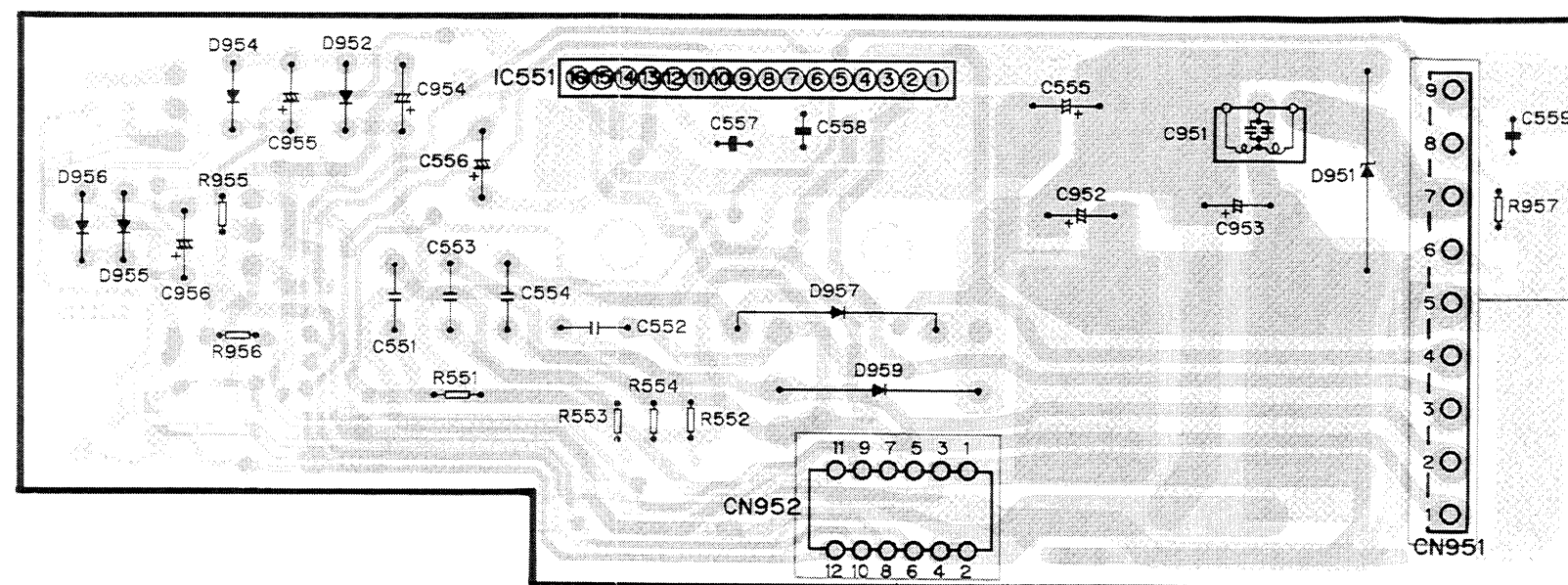


CD TUNER UNIT

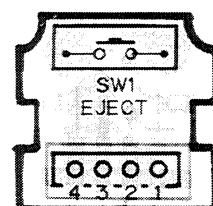


IC, Q AMP UNIT

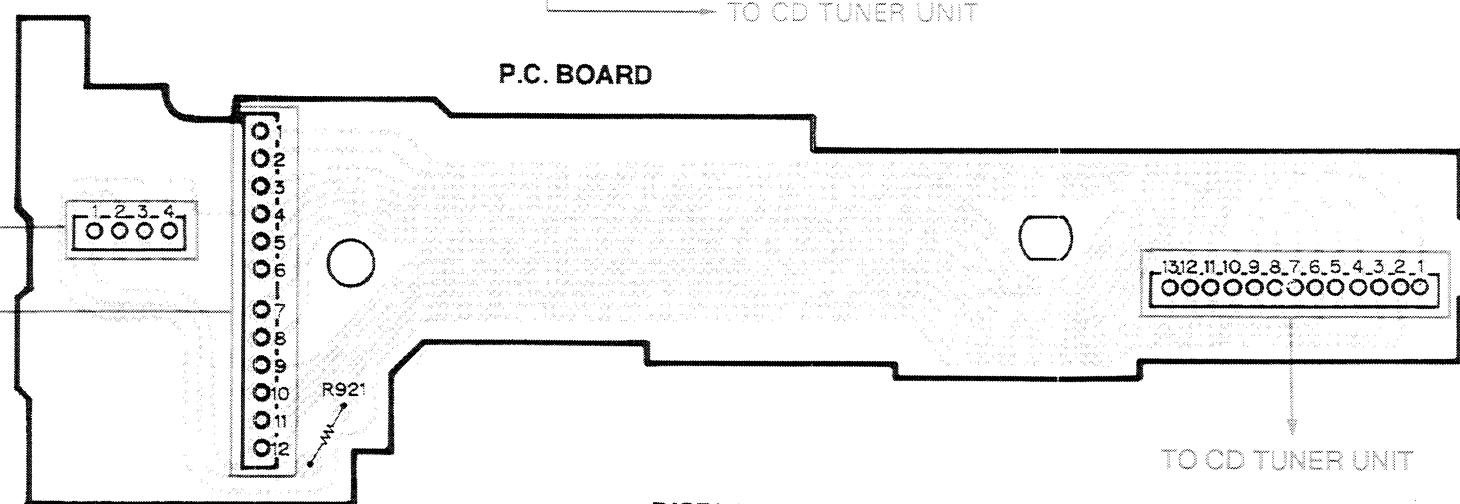
IC551



COMPOSITE PART



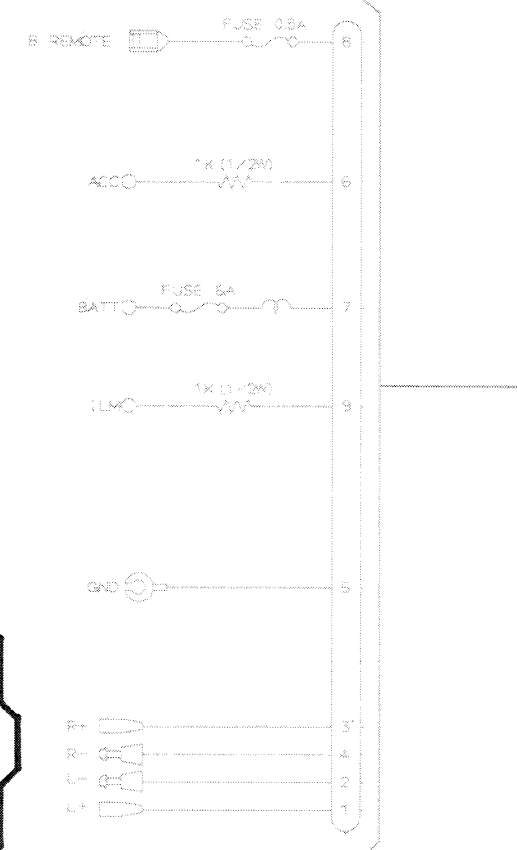
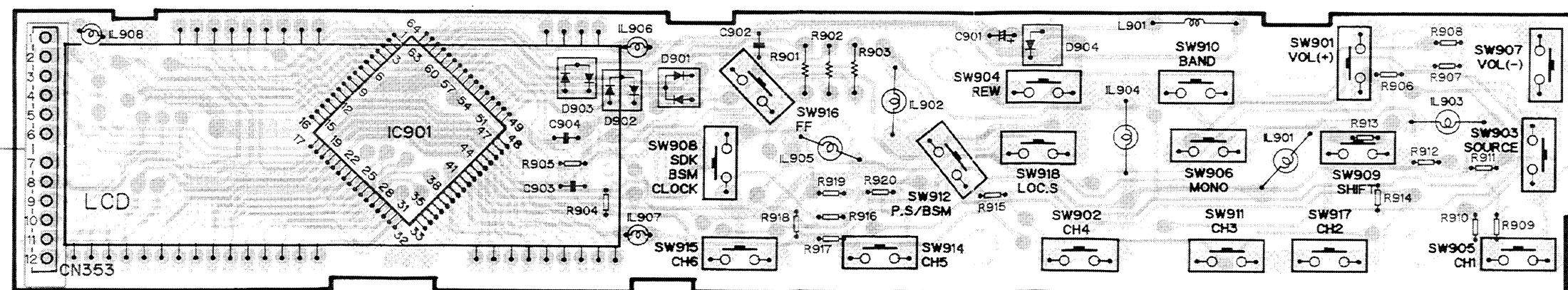
P.C. BOARD



DISPLAY UNIT

IC

IC901



A

B

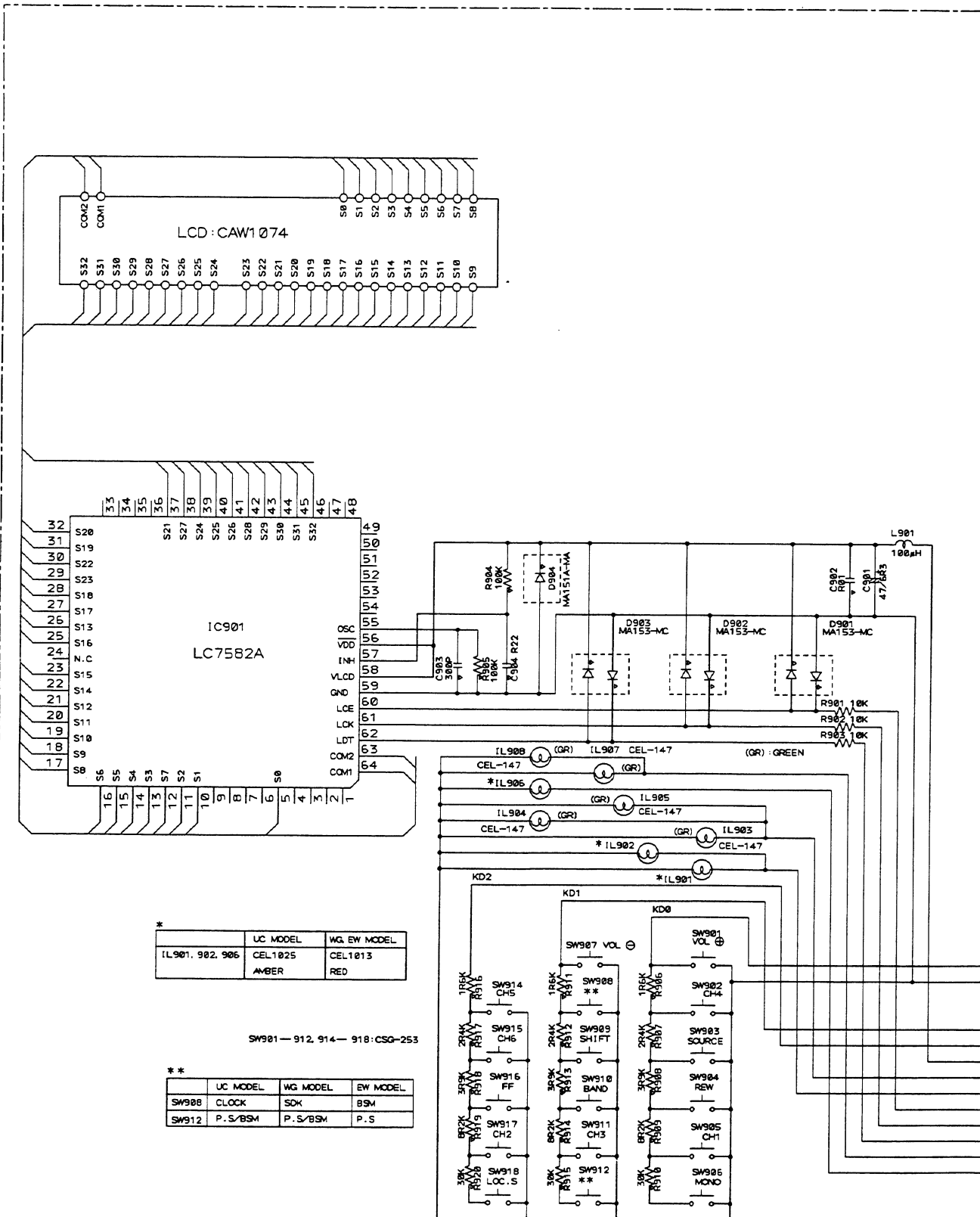
C

D

Fig. 58

● DEH-760/UC, DEH-760SDK/WG, DEH-760/EW

DISPLAY UNIT



	UC MODEL	WG EW MODEL
IL901, 902, 906	CEL1025	CEL1013
	AMBER	RED

SW901 — 912, 914 — 918: CSG-253

	UC MODEL	WG MODEL	EW MODEL
SW908	CLOCK	SDK	BSM
SW912	P.S./BSM	P.S./BSM	P.S.

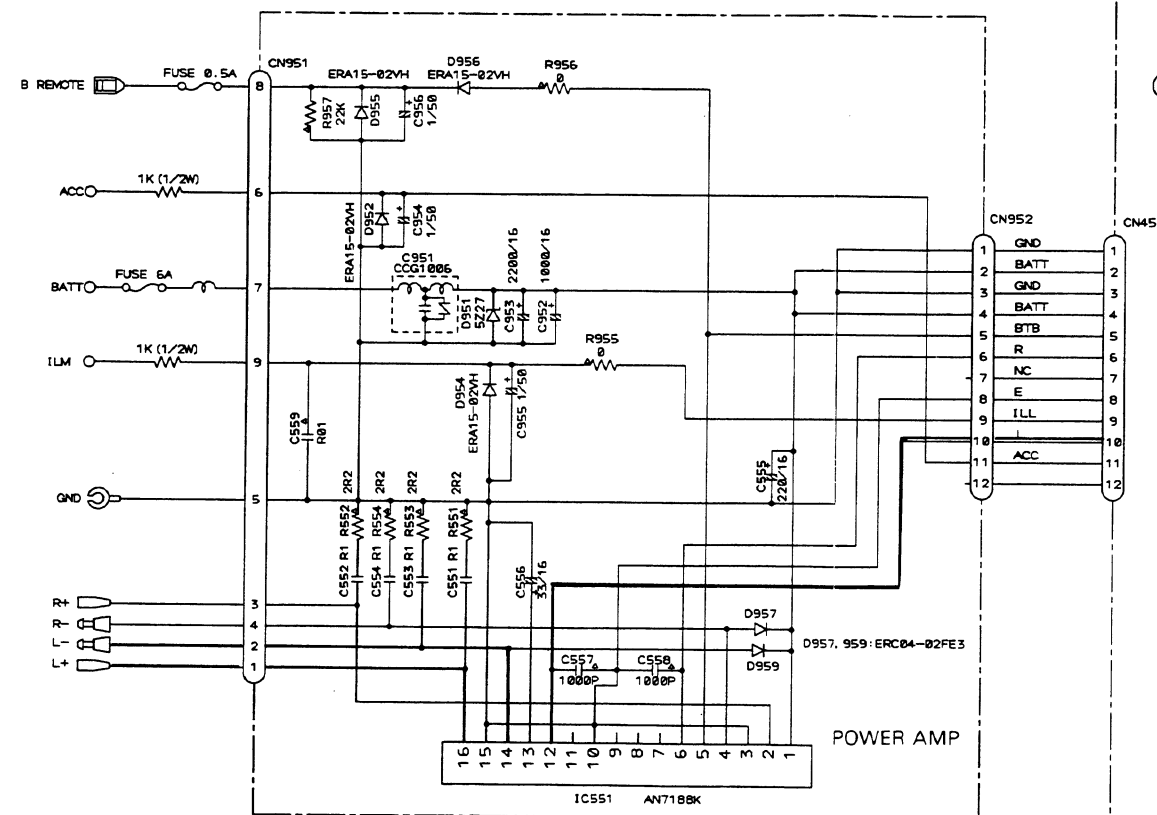
NOTE:

W Chip Resistor Decimal points for resistor
 C Chip Capacitor and capacitor fixed values
 D Chip Diode are expressed as:
 2.2 12R2
 0.022 1R022



Chip Transistor

AMP UNIT

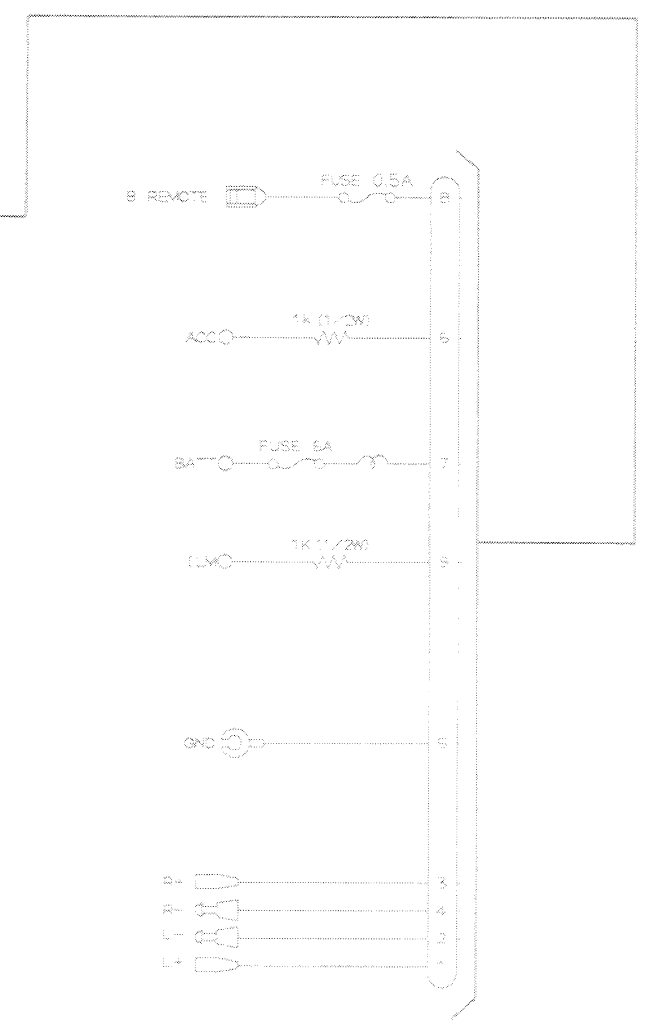
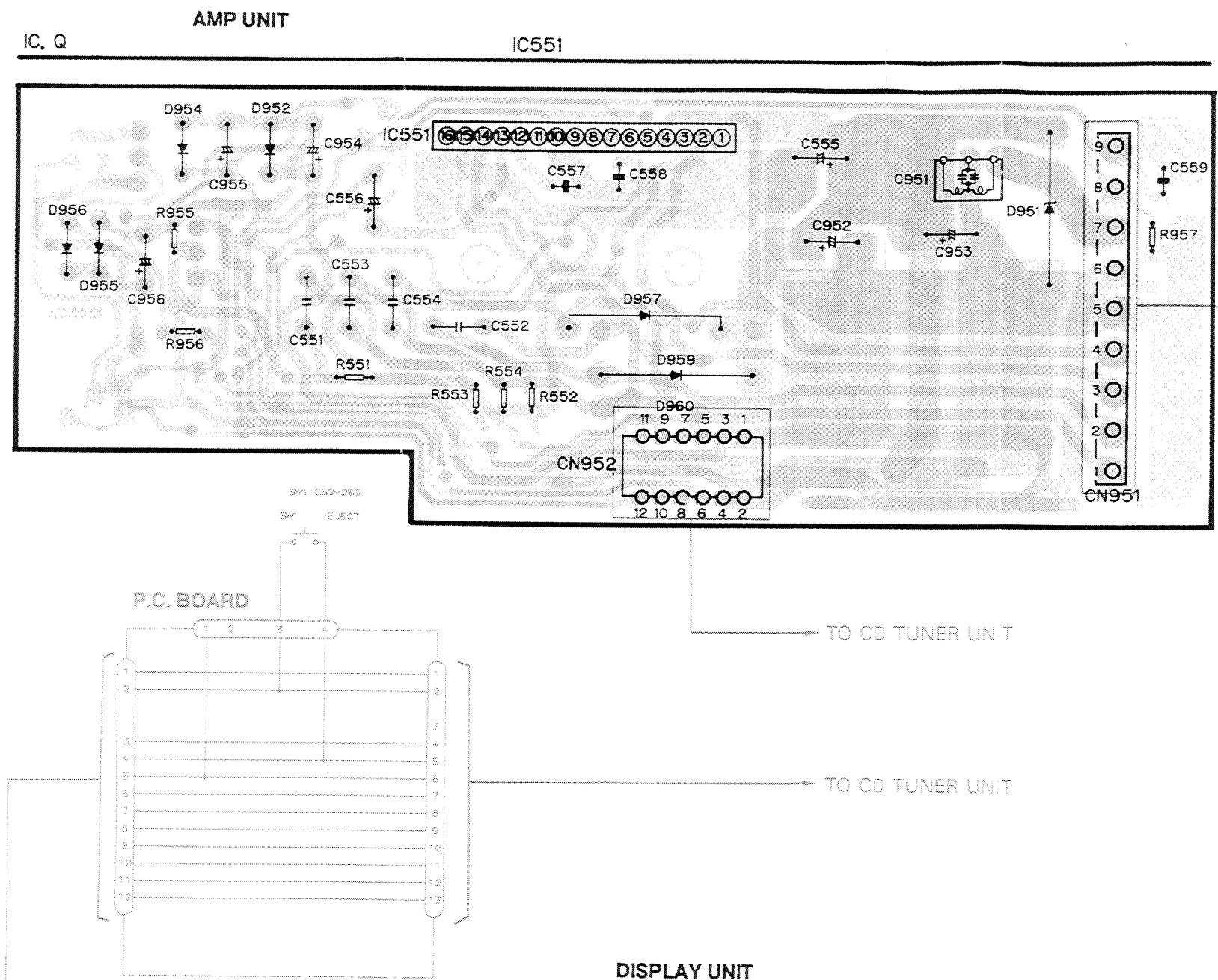


REAR OUT

FRONT OUT
UC MODEL ONLY

CD TUNER UNIT

P.C. BOARD



A

B

C

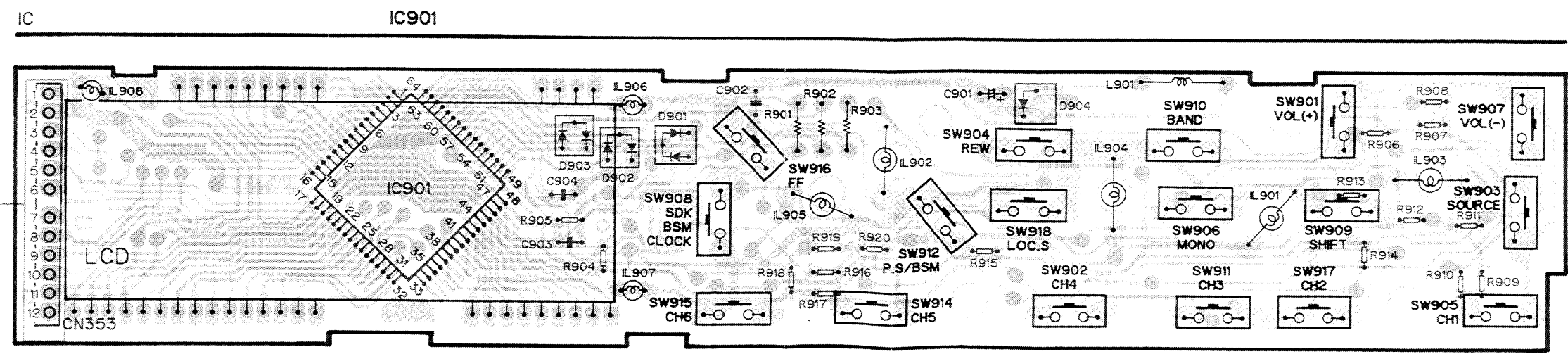


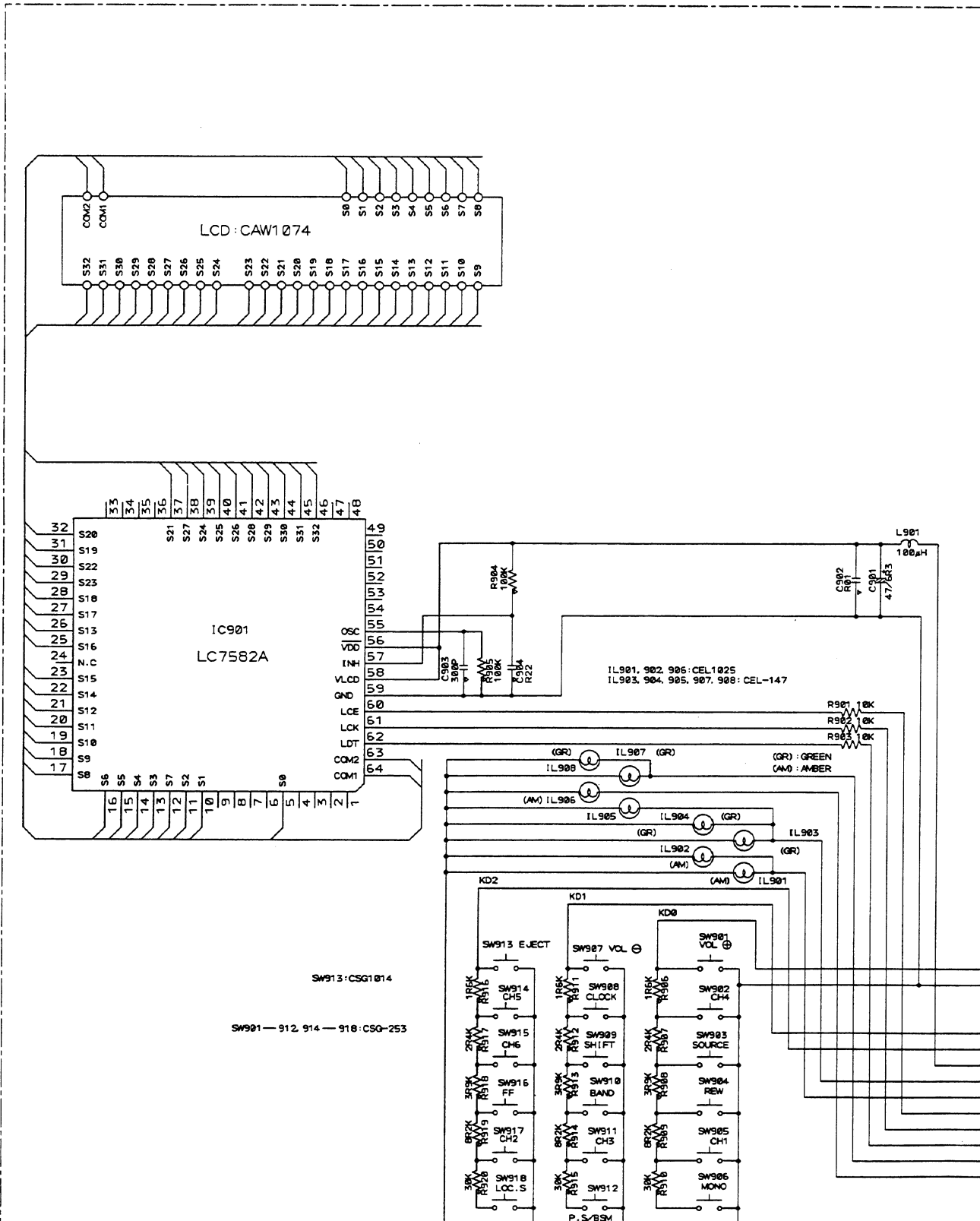
Fig. 60

Fig. 59

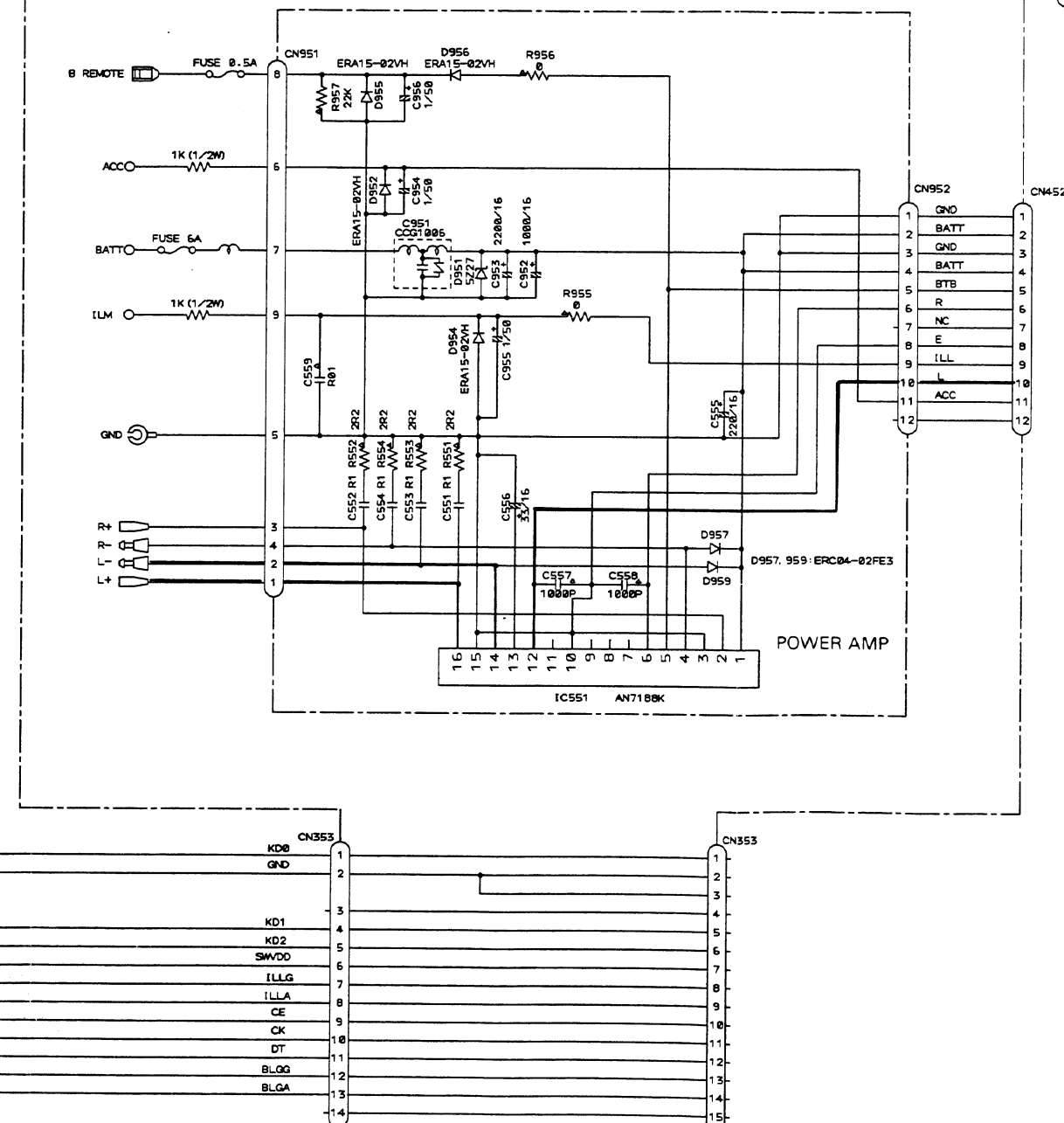
● DEH-660/UC

NOTE:
⌘ : Chip Resistor
⌘ : Chip Capacitor
⌘ : Chip Diode
⌘ : Chip Transistor
Decimal points for resistor
and capacitor fixed values
are expressed as:
2.2 → 2R2
0.022 → R022

DISPLAY UNIT



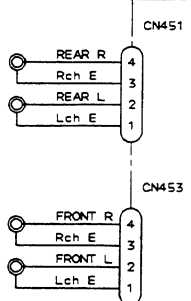
AMP UNIT



CD TUNER UNIT

REAR OUT

FRONT OUT



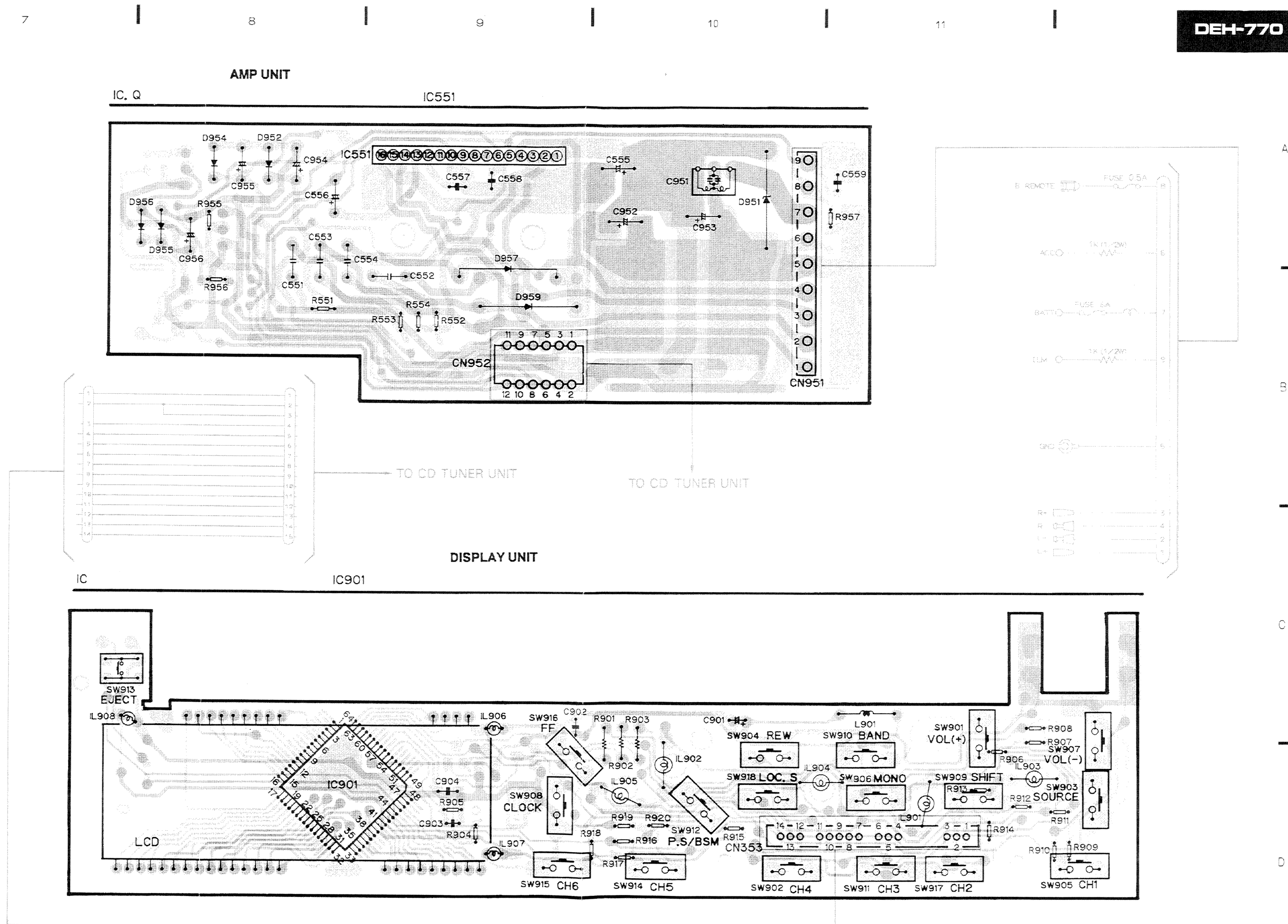


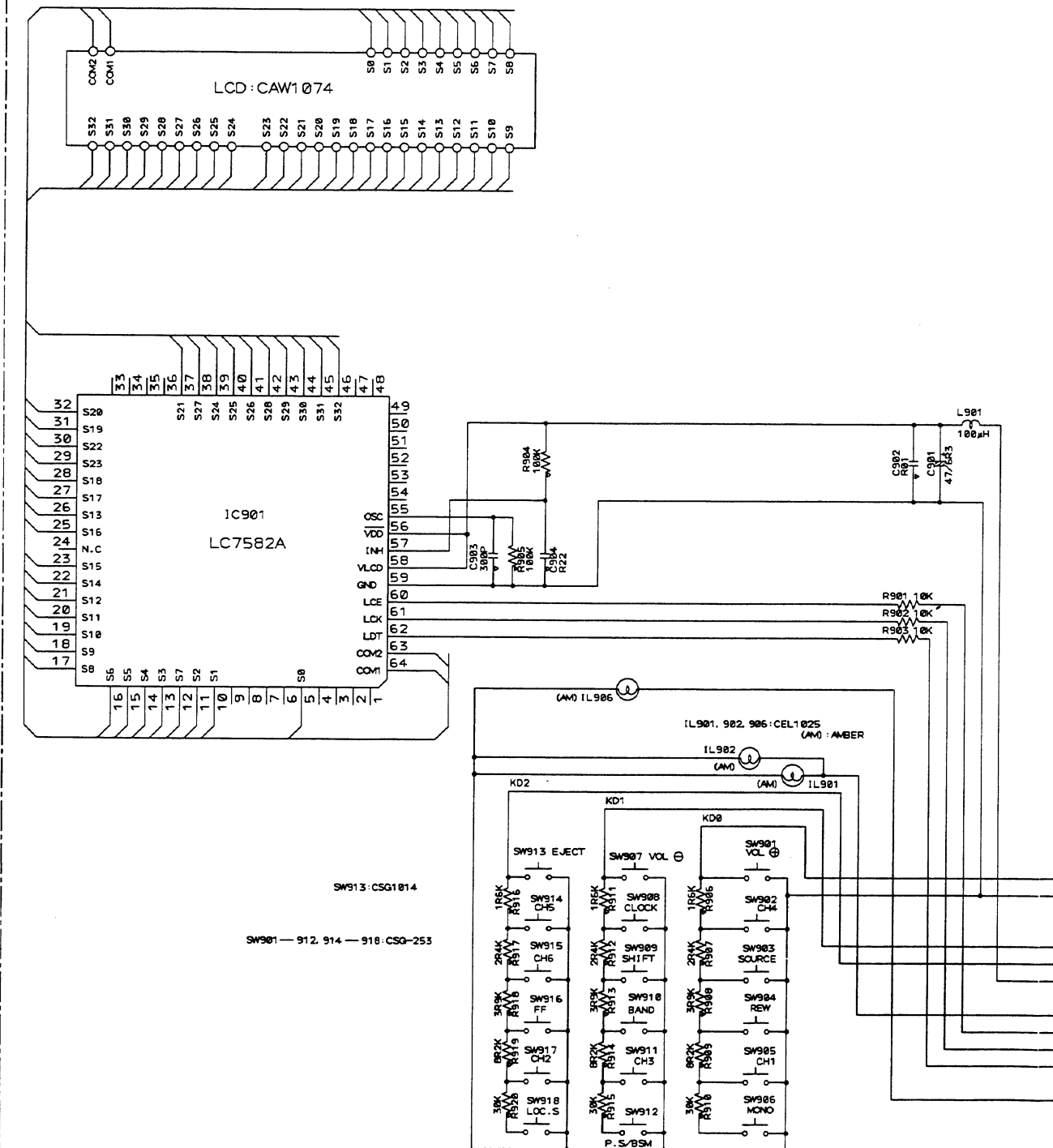
Fig. 61

● DEH-630/US, DEH-610/ES

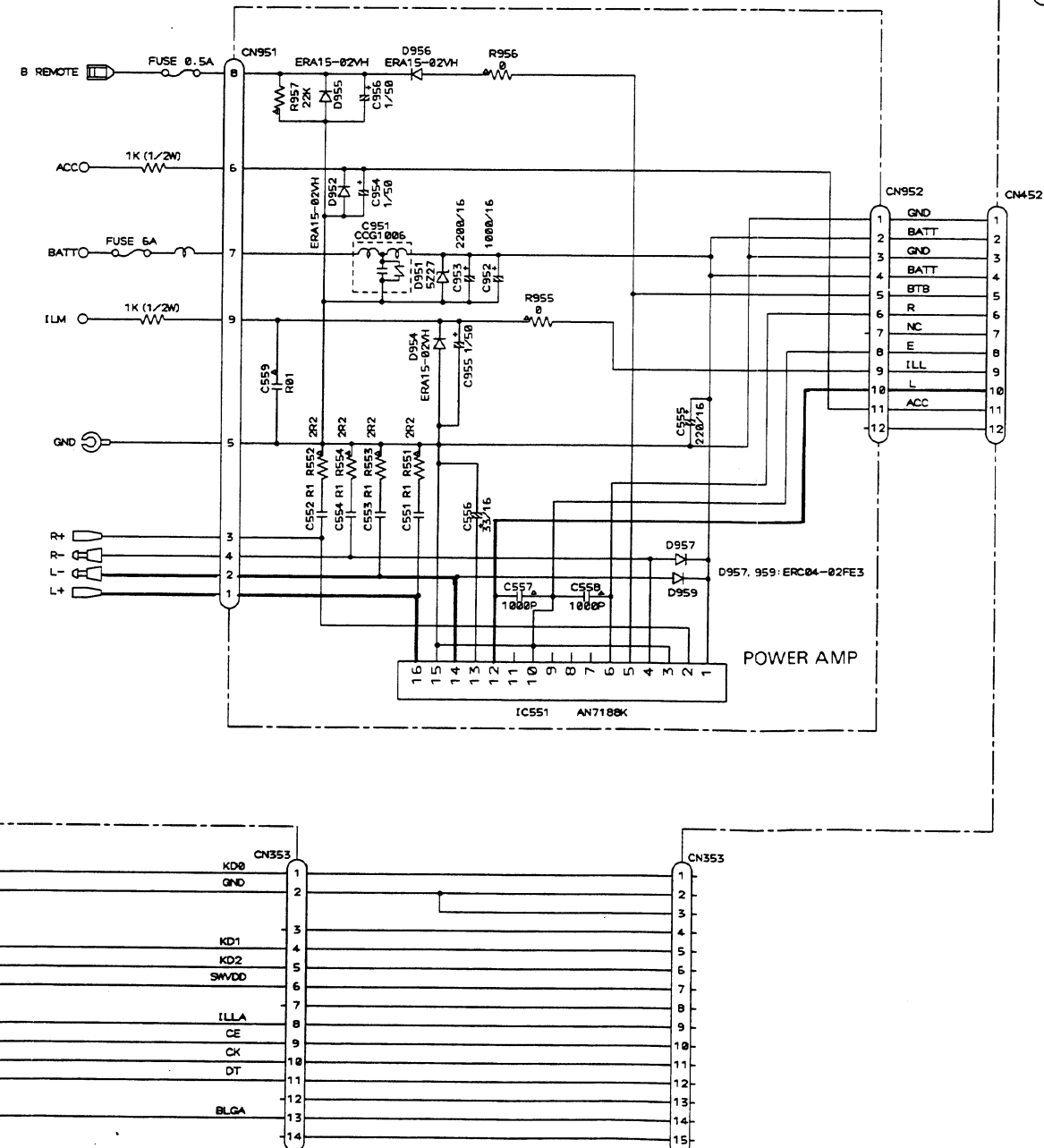
NOTE:
⎓ : Chip Resistor
⎓ : Chip Capacitor
⎓ : Chip Diode
⎓ : Chip Transistor

Decimal points for resistor and capacitor fixed values are expressed as:
2.2 → 2R2
0.022 → R022

DISPLAY UNIT

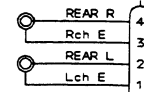


AMP UNIT



CD TUNER UNIT

REAR OUT



CN451

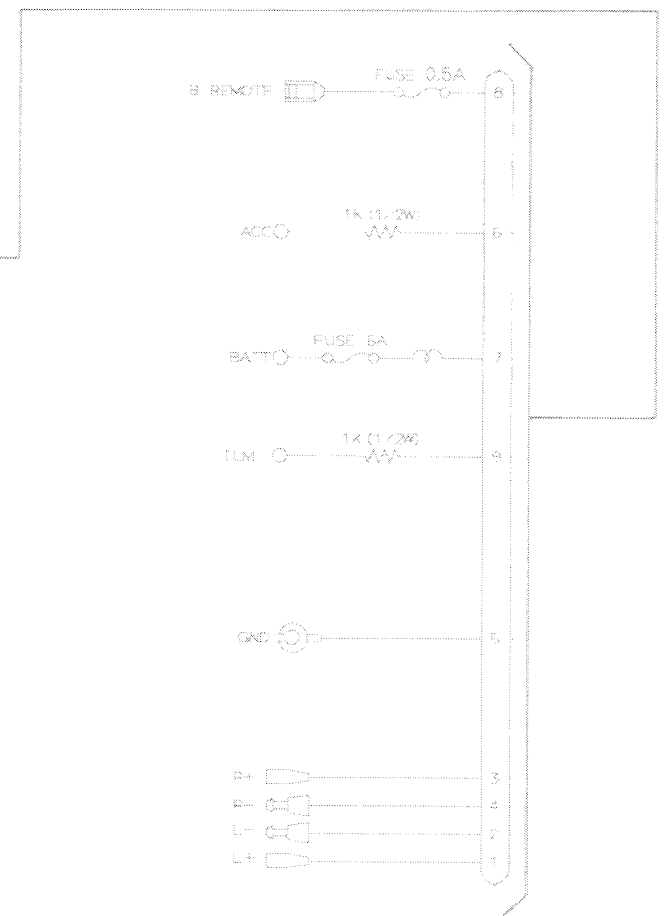
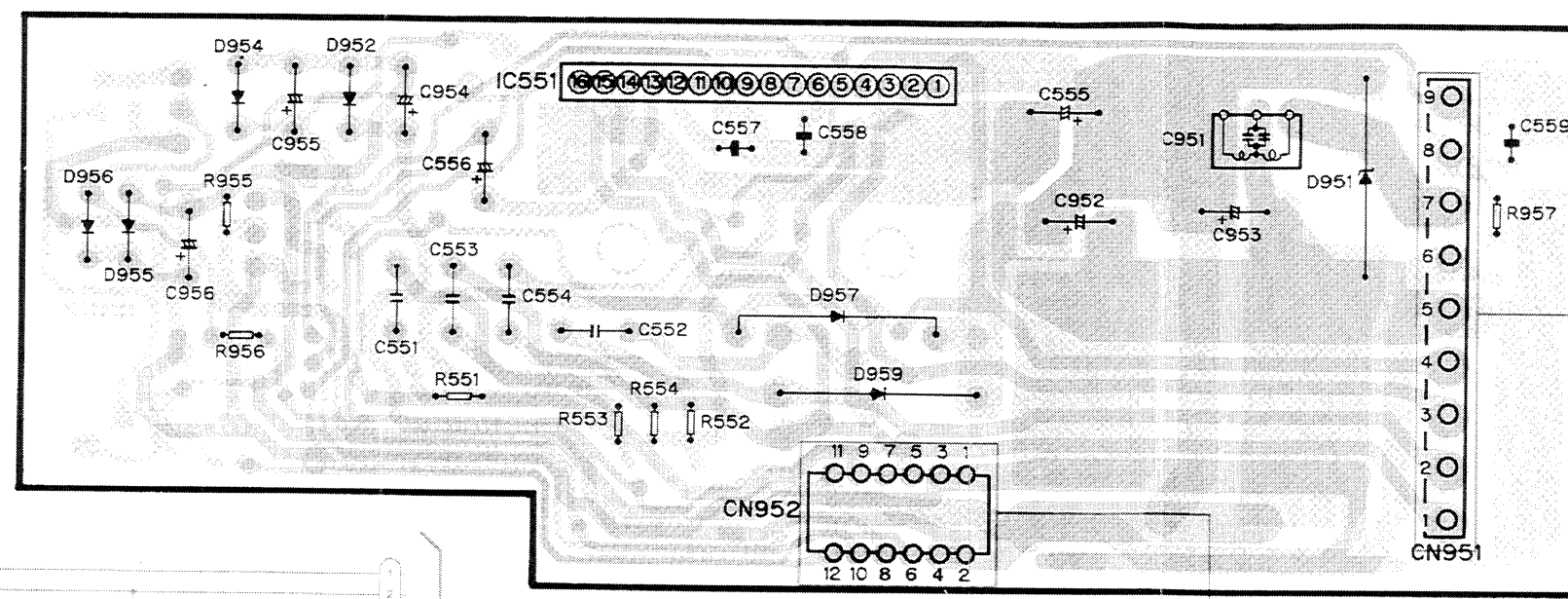
CN452

CN452

AMP UNIT

IC. Q

IC551



TO CD TUNER UNIT

TO CD TUNER UNIT

DISPLAY UNIT

IC

IC901

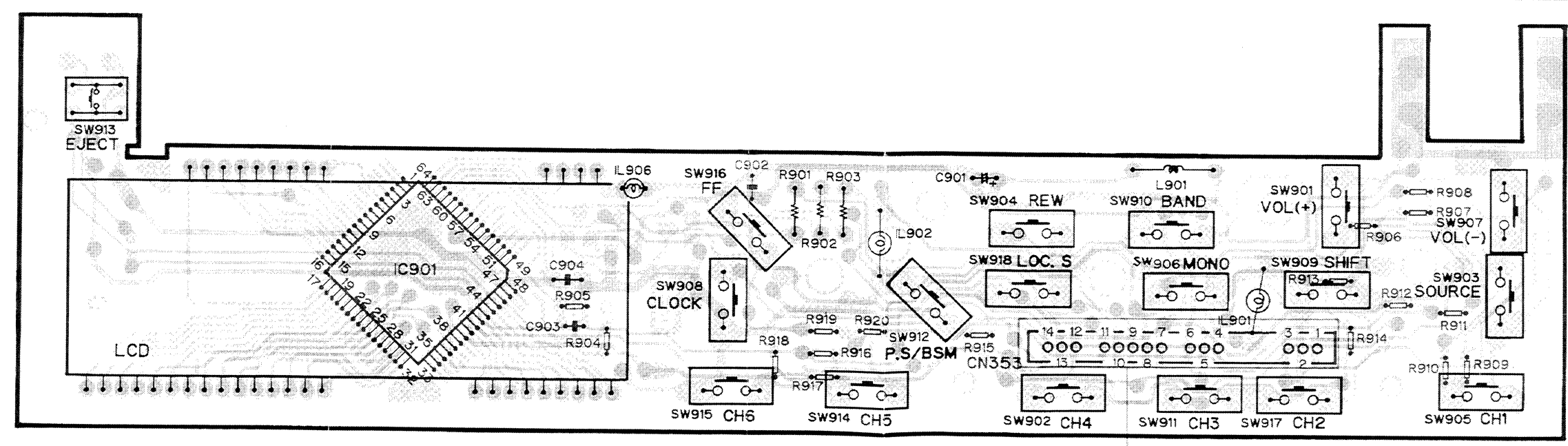


Fig. 64

• FM/AM Tuner Unit (DEH-770/UC, DEH-85/US, DEH-760/UC, DEH-660/UC)

• FM/AM Tuner Unit (DEH-630/US)

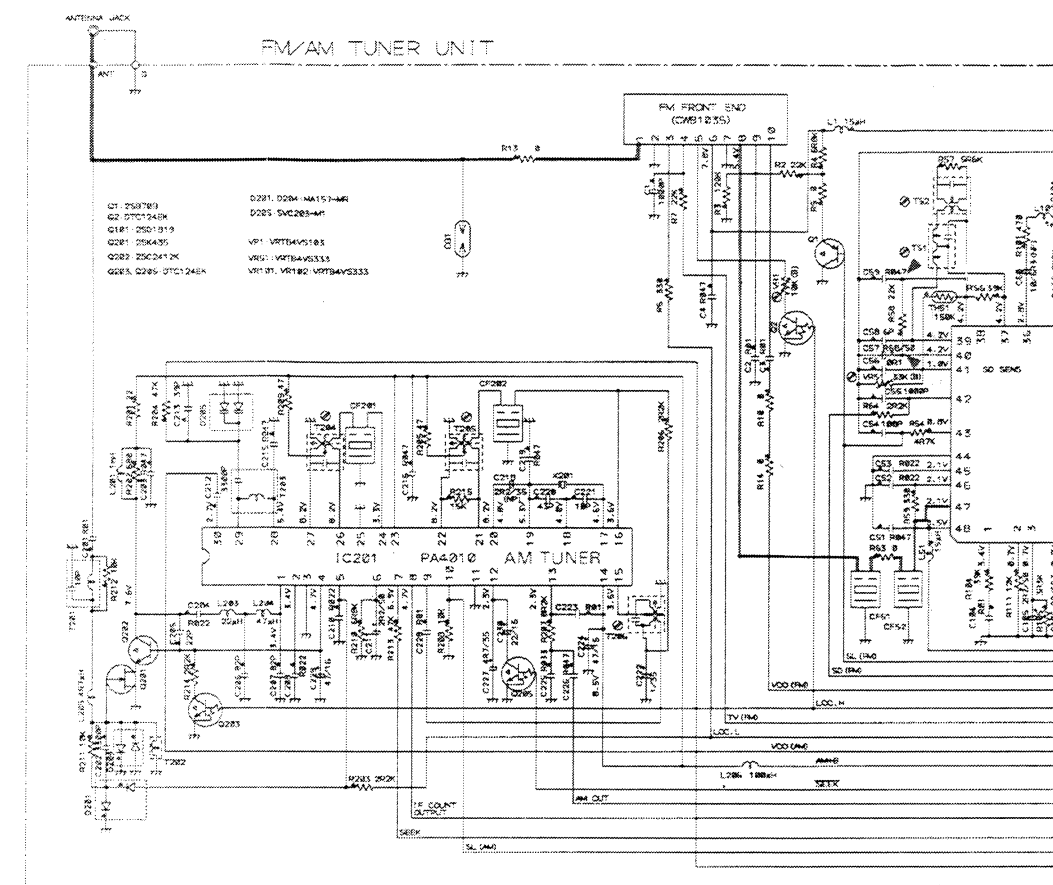
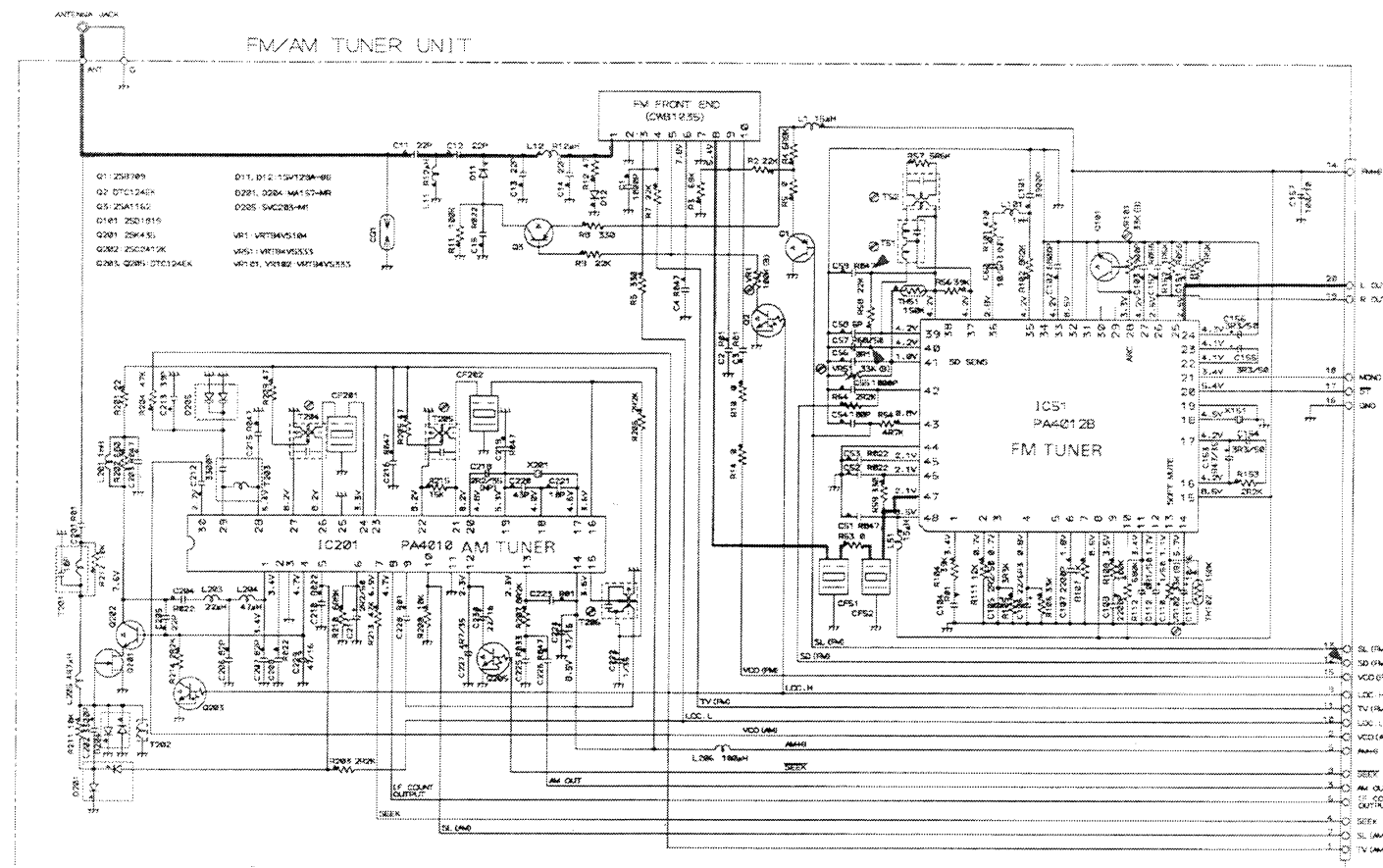


Fig. 65

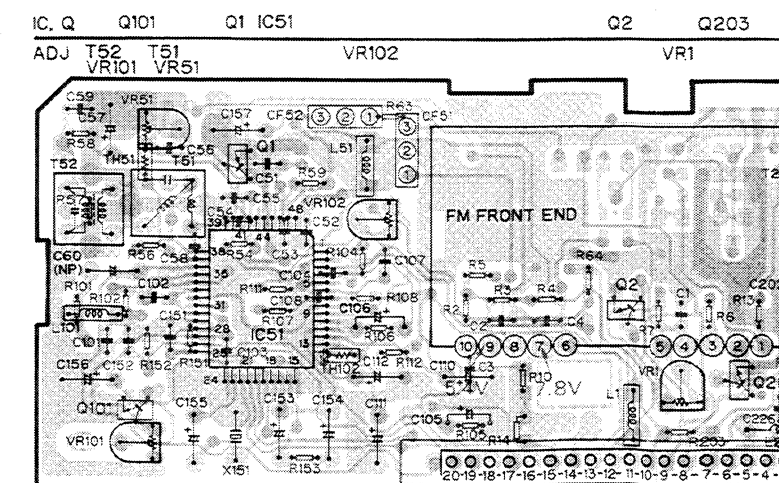
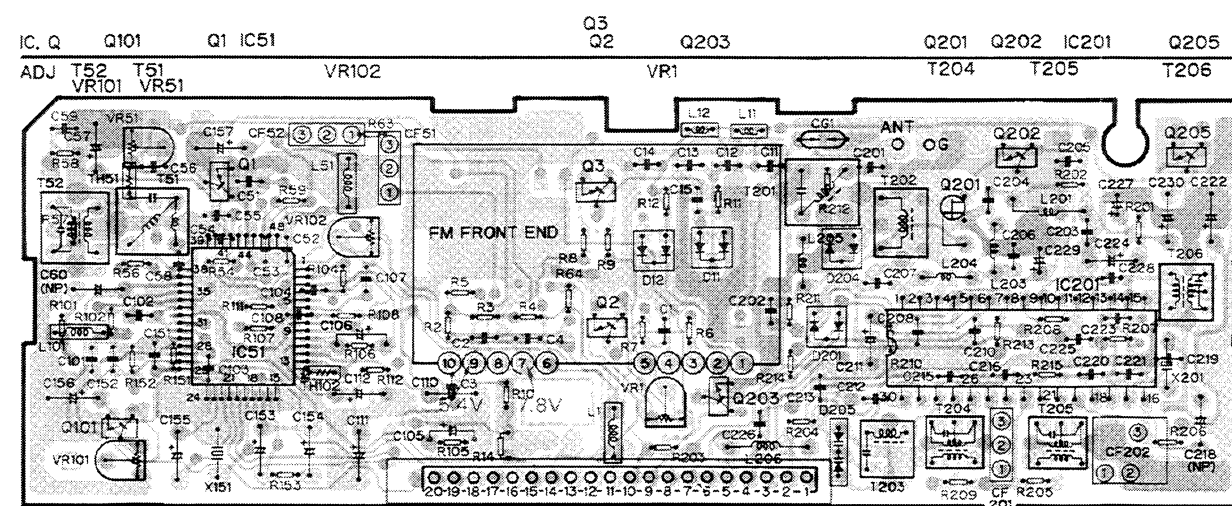


Fig. 66

• FM/AM Tuner Unit (DEH-710/ES, DEH-610/ES)

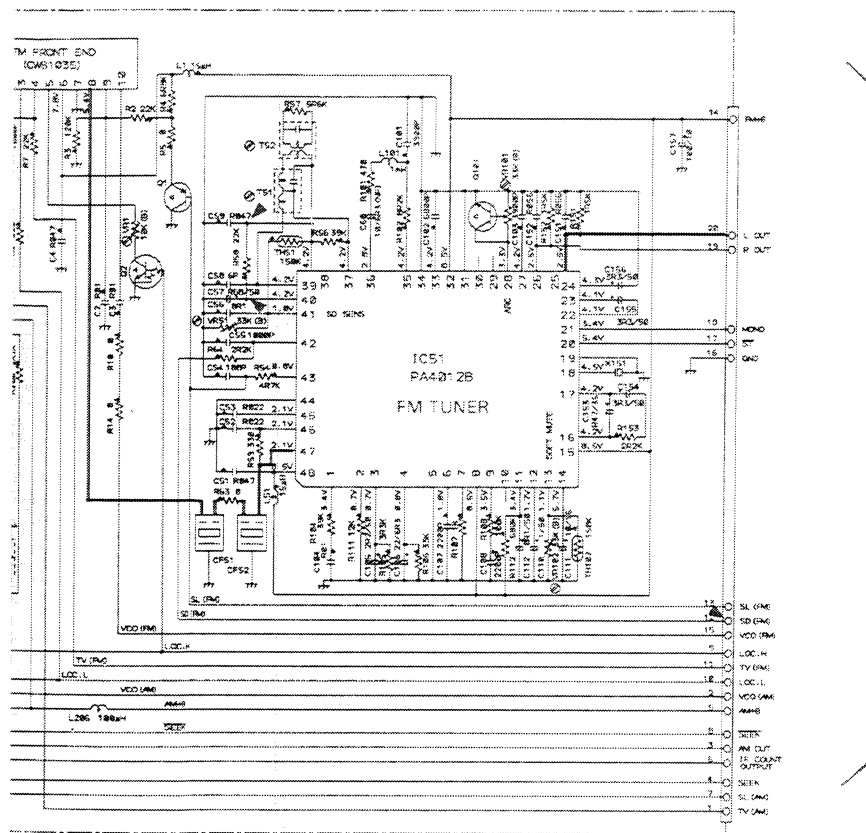


Fig. 67

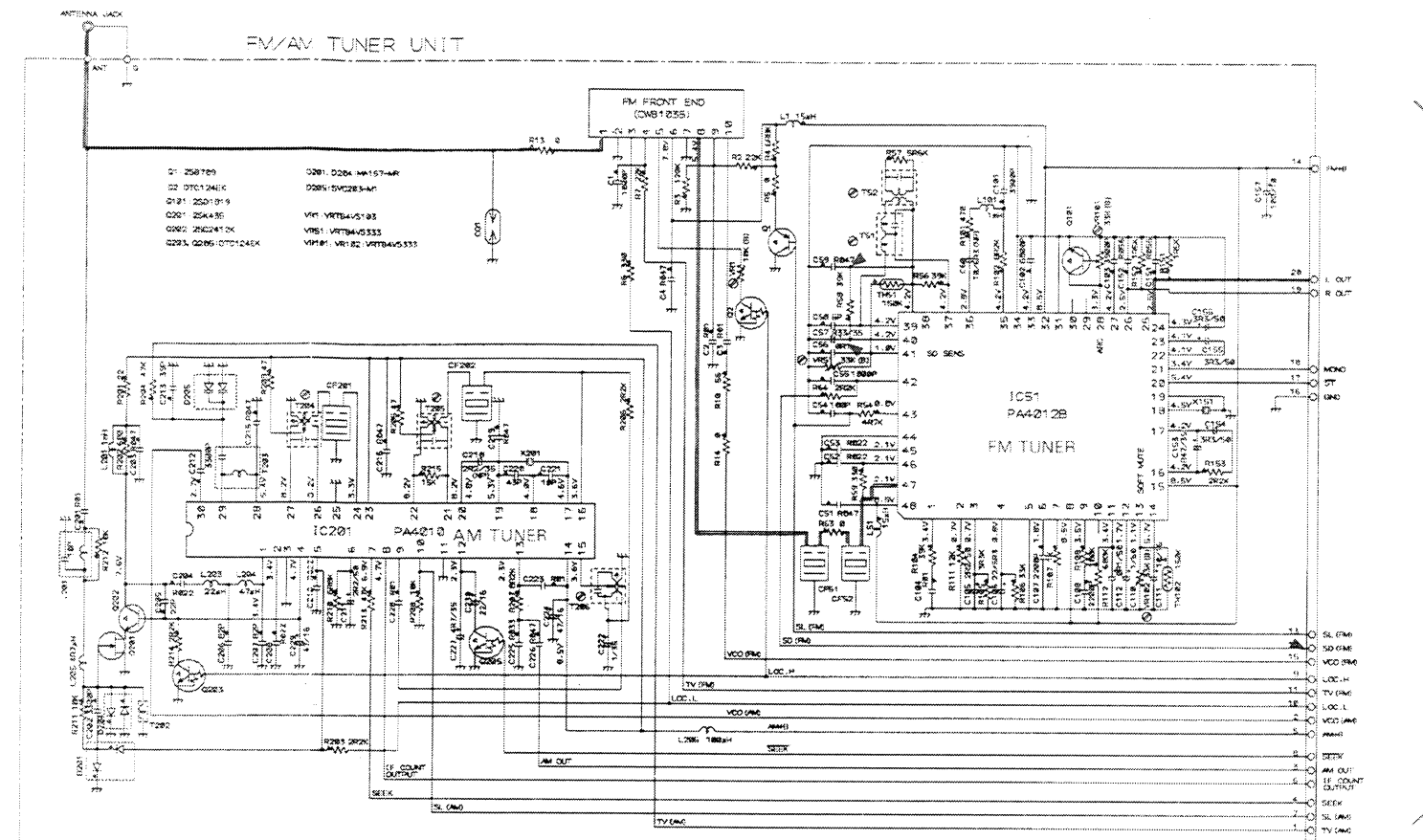


Fig. 69

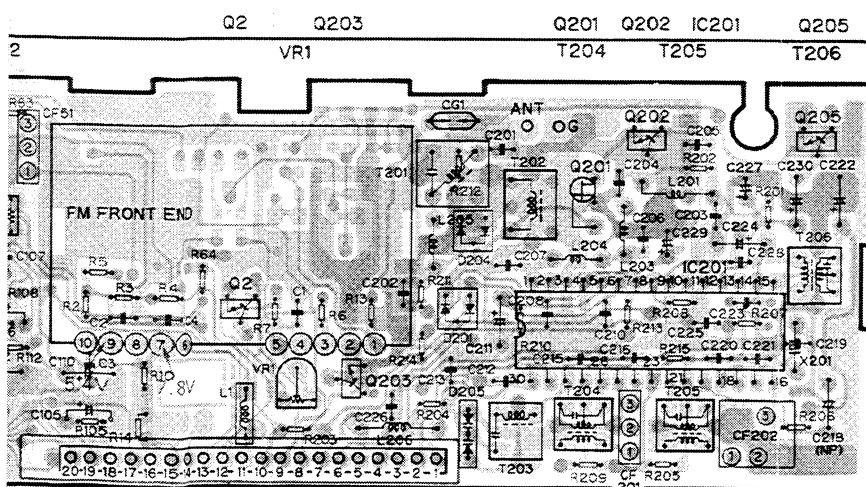


Fig. 68

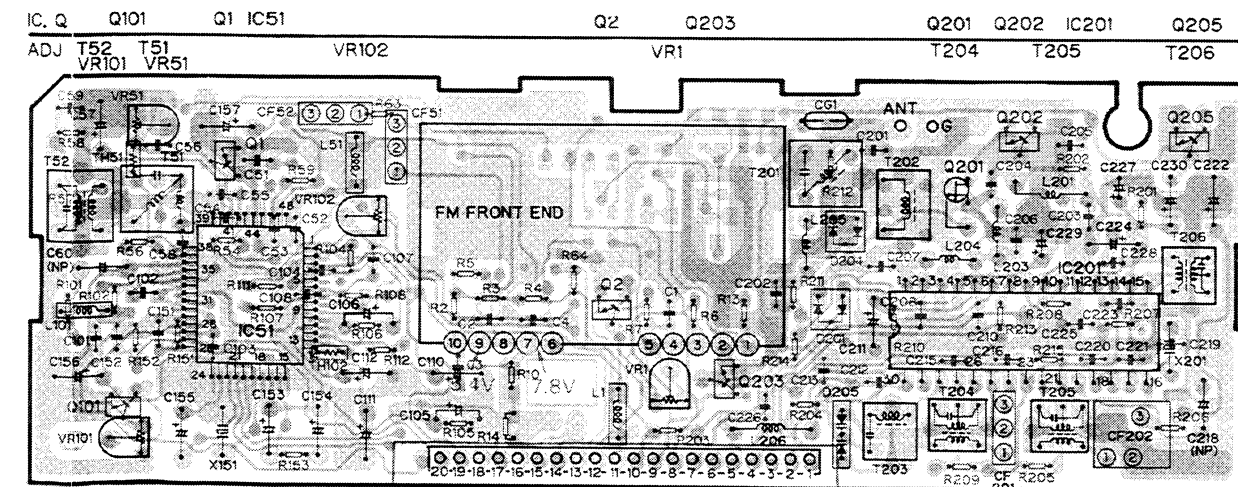


Fig. 70

• FM/AM Tuner Unit (DEH-770SDK/WG, DEH-760SDK/WG)

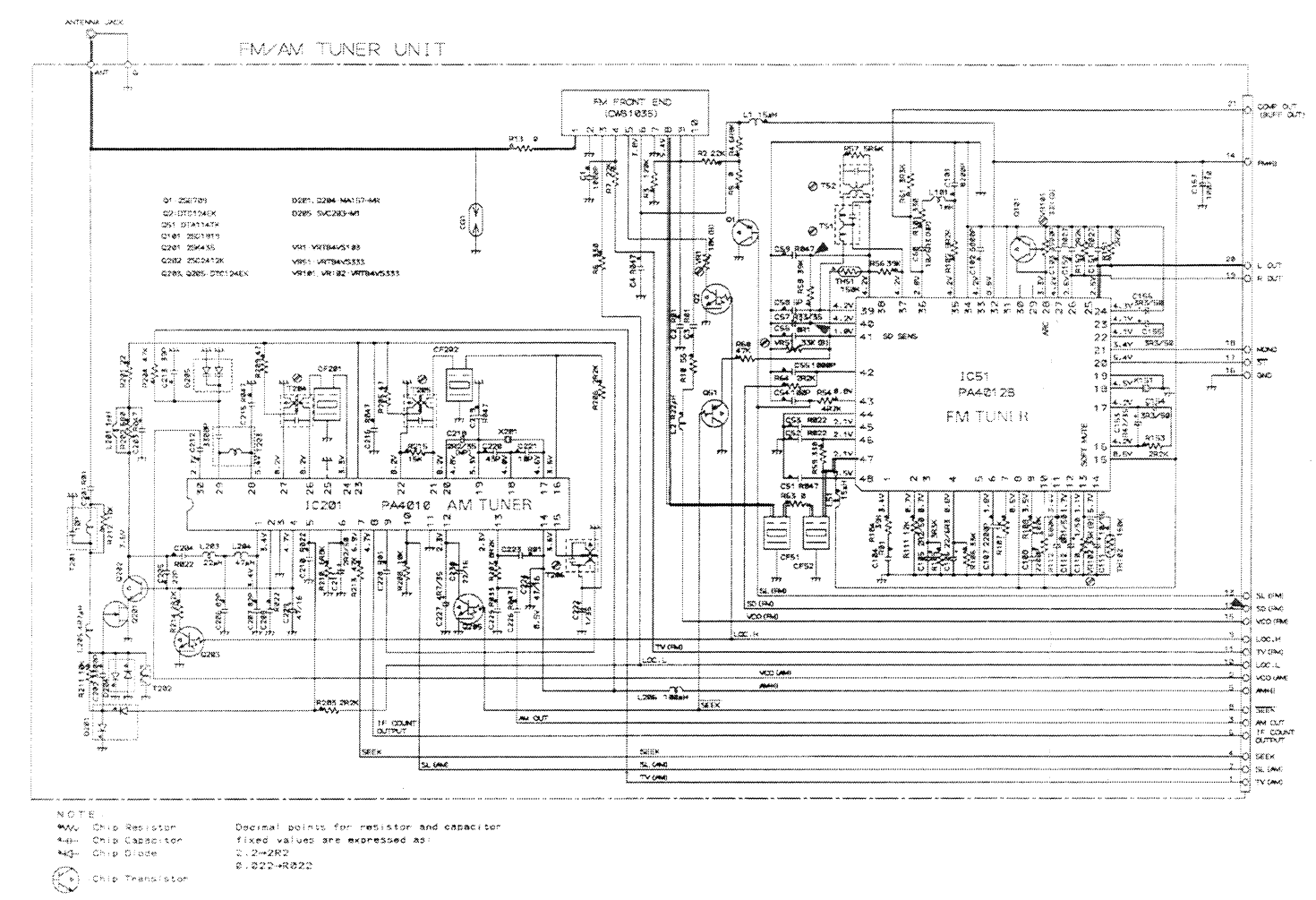


Fig. 71

• FM/AM Tuner Unit (DEH-770/EW, DEH-760/EW)

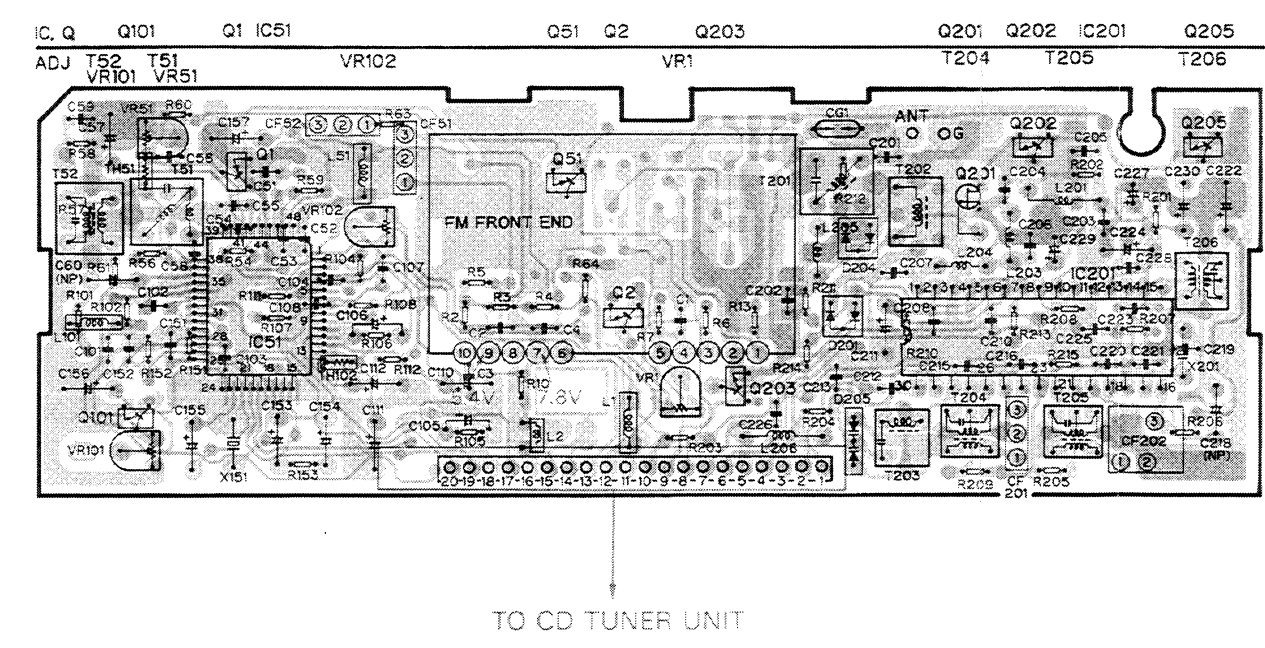
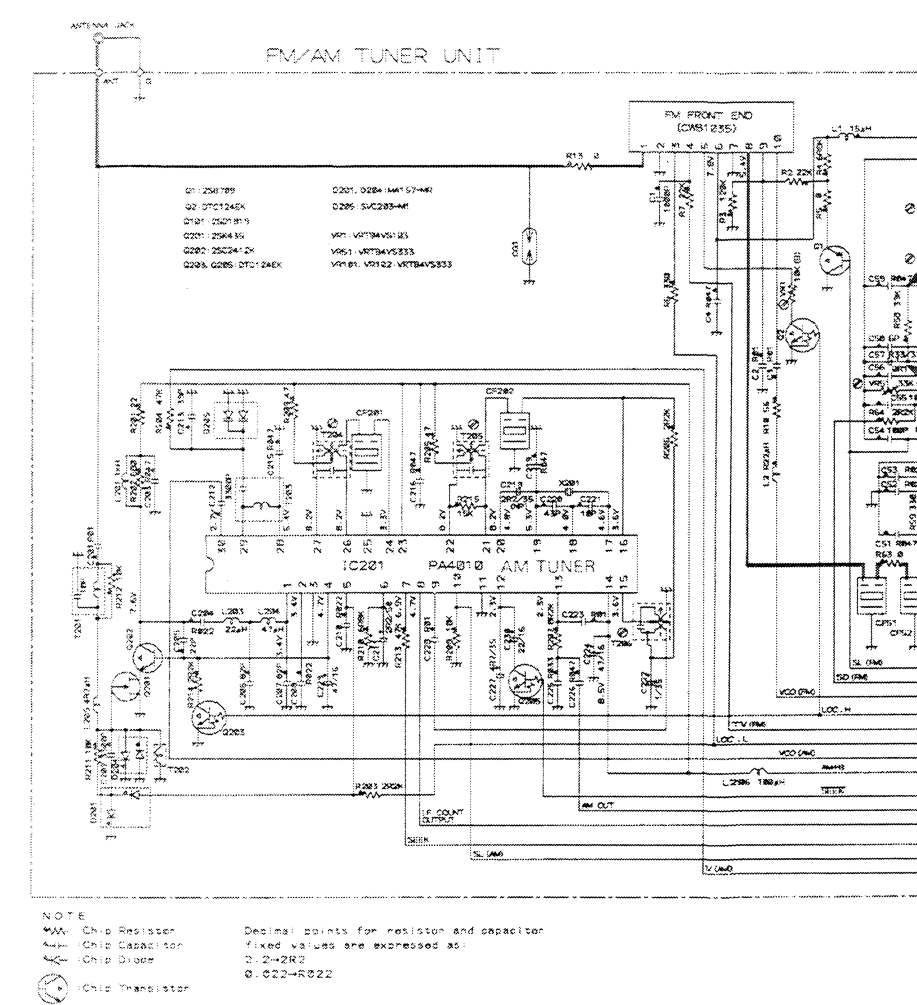
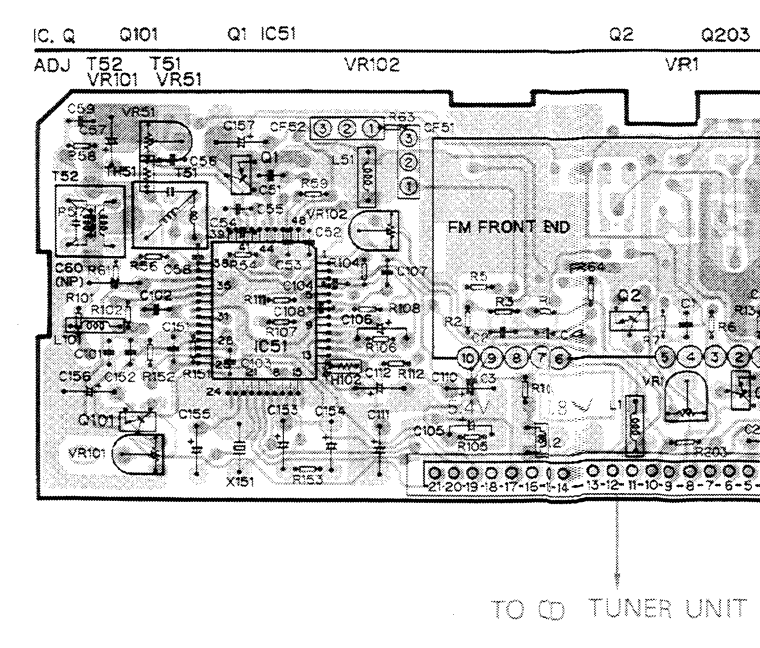


Fig. 72



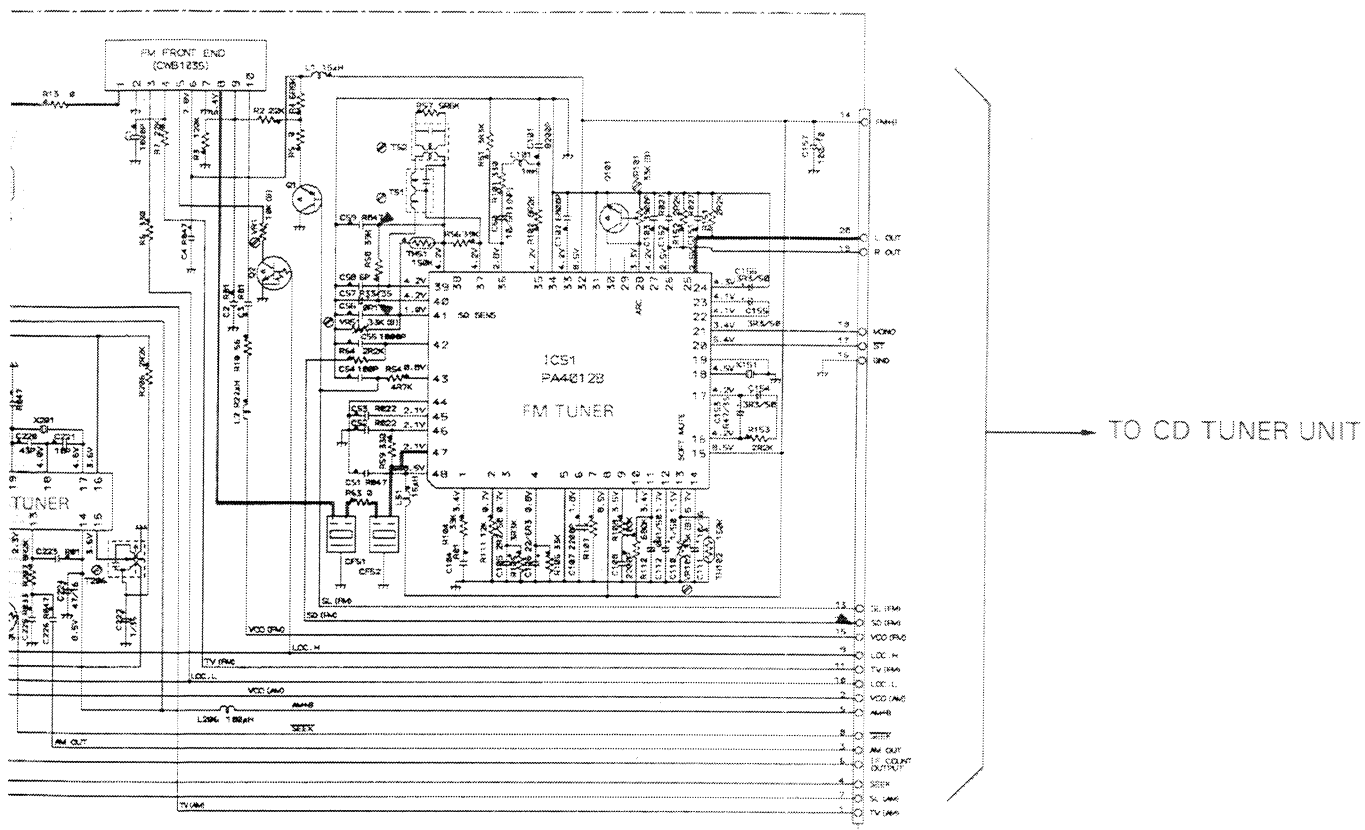


Fig. 73

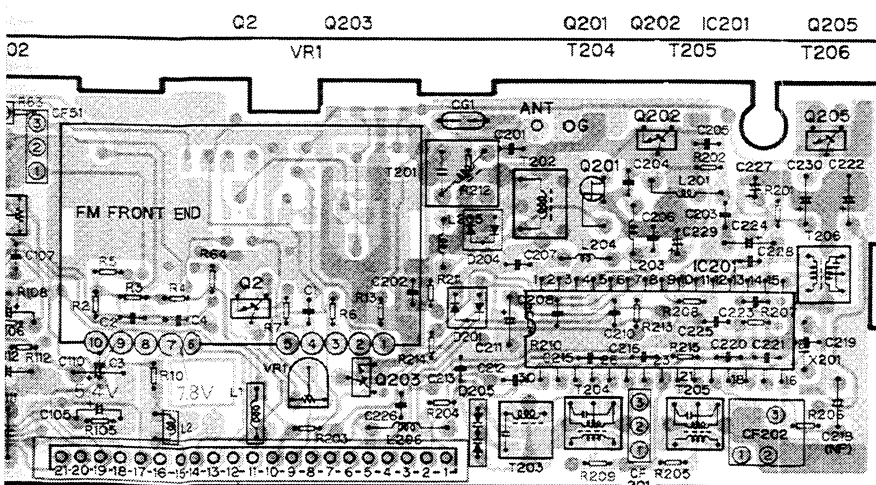


Fig. 74

19. CD MECHANISM UNIT EXPLODED VIEW

NOTE:

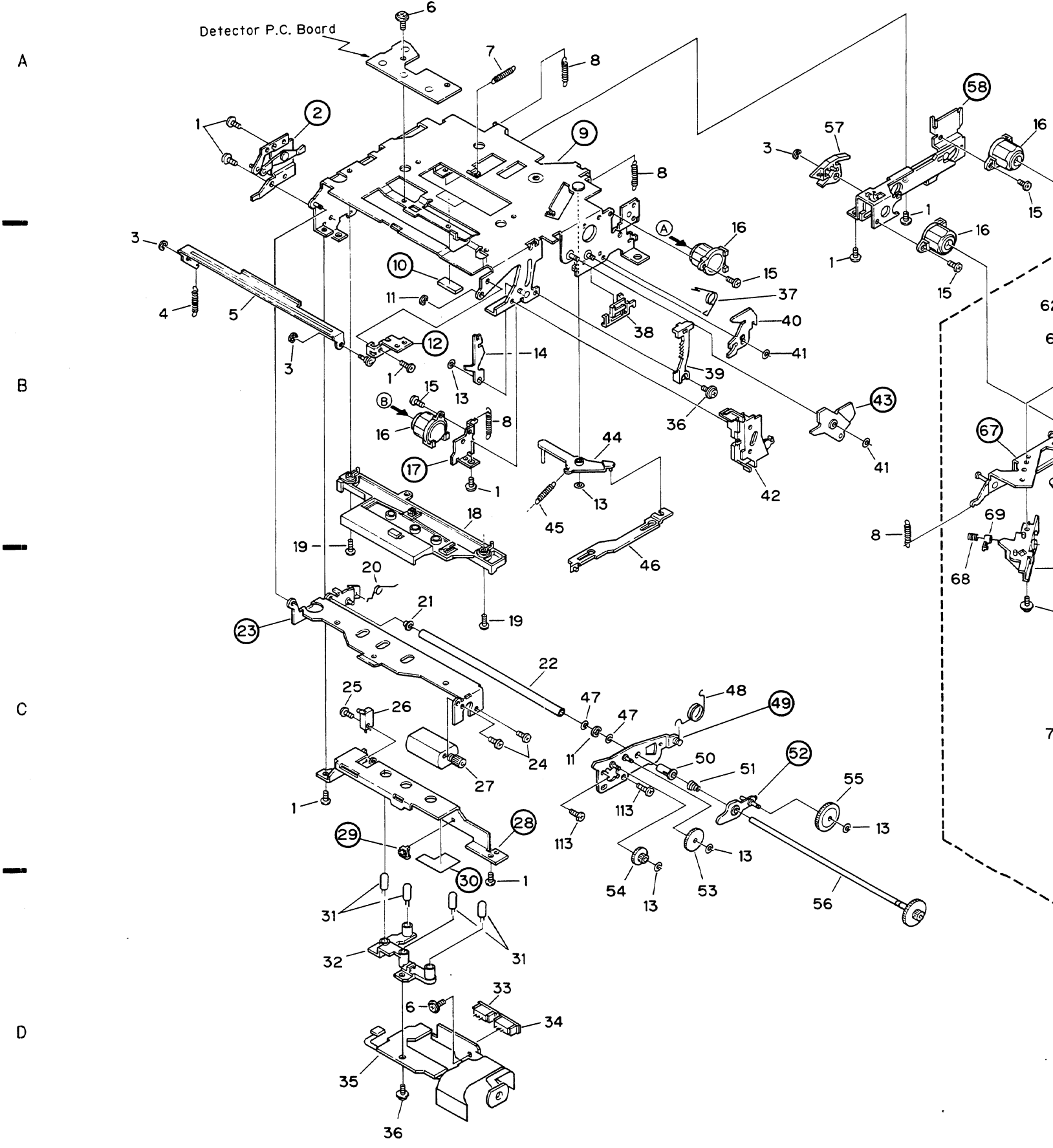
- The parts marked with "●" may need long time to supply and their supply is subject to refuse as the case may be.
- Because the parts with encircled number shown on the dismantling drawing are not spare parts, we are unable to supply them in principle.

• Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ26P030FMC	36	Screw	CBA1075
2	Bracket Unit	CXA3459	37	Spring	CBH1336
3	Washer	YE15FUC	38	Holder	CNV1633
4	Spring	CBH1137	39	Gear	CNV2302
5	Arm	CNC2858	40	Arm	CNV2451
6	Screw	CBA1076	41	Washer	CBF1022
7	Spring	CBH1136	42	Cover	CNV2452
8	Spring	CBH1182	43	Arm Unit	CXA3393
9	Chassis Unit	CXA3392	44	Arm	CNV2505
10	Cushion	CNM2068	45	Spring	CBH1343
11	Washer	YE20FUC	46	Lever	CNV2505
12	Bracket Unit	CXA2986	47	Washer	HBF-126
13	Washer	CBF-166	48	Spring	CBH1133
14	Cam	CNV2535	49	Bracket Unit	CXA2982
15	Screw	CBA1118	50	Bearing	CNV2224
16	Damper Unit	CXA3339	51	Spring	CBH1181
17	Bracket	CNC1926	52	Arm Unit	CXA2994
18	Guide	CNV2221	53	Gear	CNV1628
19	Screw	CBA1131	54	Gear	CNV1627
20	Spring	CBH1299	55	Gear	CNV1629
21	Bearing	CNV1884	56	Gear Unit	CXA2990
22	Roller	CNV2225	57	Arm	CNV2510
23	Arm Unit	CXA2983	58	Bracket Unit	CXA2984
24	Screw	HBA-175	59	Carriage Mechanism Unit	CXA3474
25	Screw	CBA1070	60	Guide	CNV1782
26	Switch	CSN1020	61	Screw	HBA-163
27	Motor Unit	CXA2129	62	Holder	CNC1738
28	Bracket	CNC2859	63	Screw	PMS20P030FMC
29	Holder	CNV2511	64	Holder	CNC1739
30	Insulator	CNM2560	65	Arm Unit	CXA3441
31	LED	SLH-34VC3F	66	Chassis Unit	CXA2991
32	Holder	CNV2226	67	Bracket Unit	CXA2992
33	Connector	CKS-719	68	Spring	CBH1104
34	Connector	CKS-721	69	Spacer	CNV1844
35	P.C. Board	CNP2178			

Mark No.	Description	Part No.	Mark No.	Description	Part No.
70	Holder	CNV2485	95	Screw Unit	CXA2375
71	Holder Unit	CXA2993	96	Holder	CNV1781
72	Holder	CNV2229	97	Short Pin	CBL1010
73	Switch	CSN1018	98	Spring	CBH1292
74	Screw	CBA1070	99	Spring	CBH1297
75	Motor Unit	CXM1054	100	Spring	CBH1296
76	P.C. Board	CNP2383	101	Spring	CBH1294
77	Cushion	CNV1863	102	Arm Unit	CXA3470
78	Shaft	CLA1197	103	Spacer	CNM1787
79	Shaft	CLA1196	104	Ball	CNR1079
80	Holder	CNV1512	105	Clamper	CNV2411
81	Screw	CBA1062	106	Arm Unit	CXA3471
82	Spring	CBH1105	107	Spring	CBH1295
83	Holder	CNC1736	108	Arm	CNV2228
84	Screw	CLA1319	109	Arm Unit	CXA3472
85	PU Unit	CGY1015	110	Spring	CBH1293
86	Holder Unit	CXA1860	111	Guide	CNV2223
87	Spring	CBH1106	112	Screw	CBA1084
88	Rack	CNV1513	113	Screw	BMZ20P030FMC
89	Connector	CDE2849			
90	P.C. Board	CNP2384			
91	Motor Unit	CXA3347			
92	Bracket	CNC3288			
93	Screw	CBA-098			
94	Belt	CNT1020			

● CD Mechanism Unit



● CD Mechanism Unit

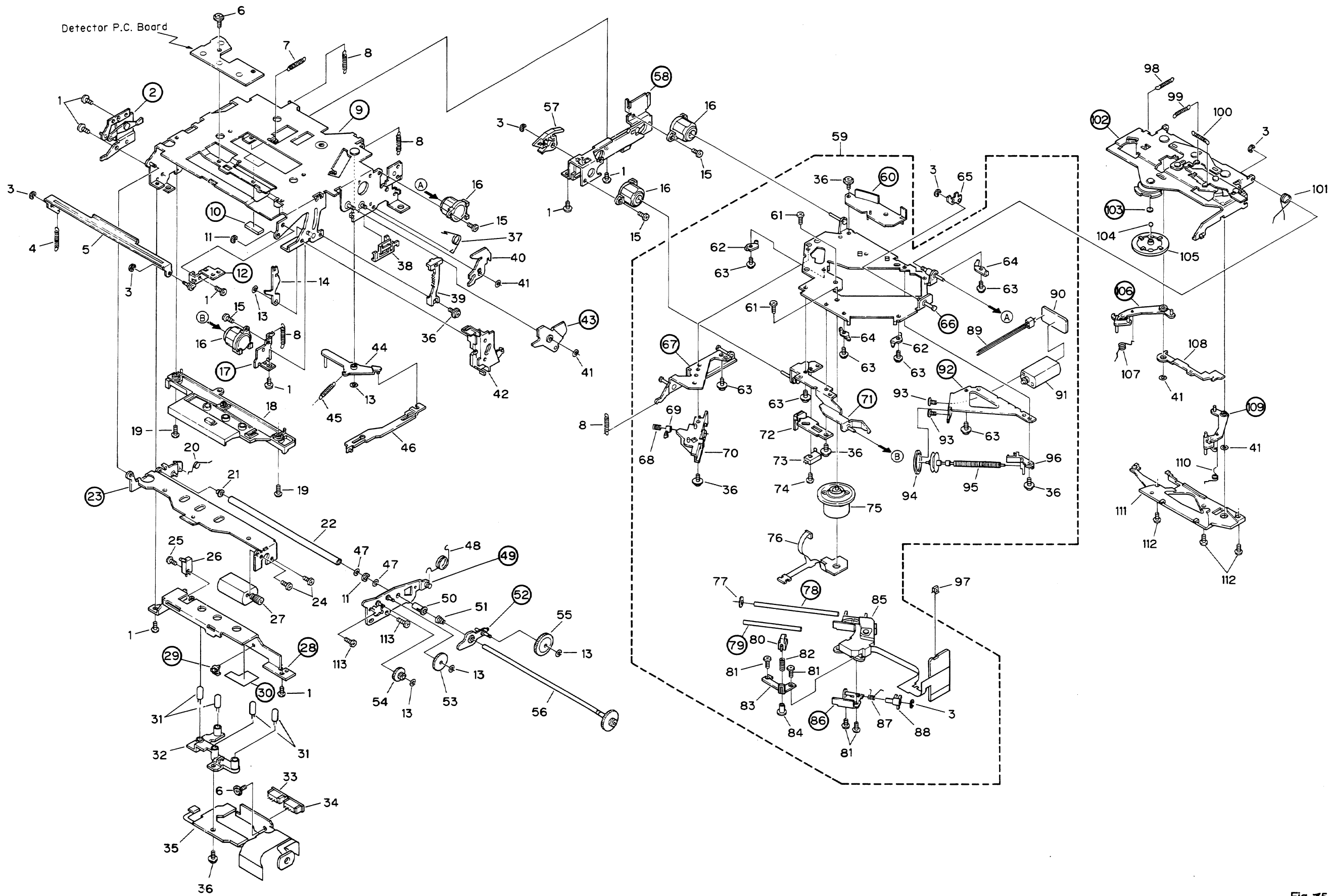


Fig. 75

20. EXPLODED VIEW

● Parts List

Mark No.

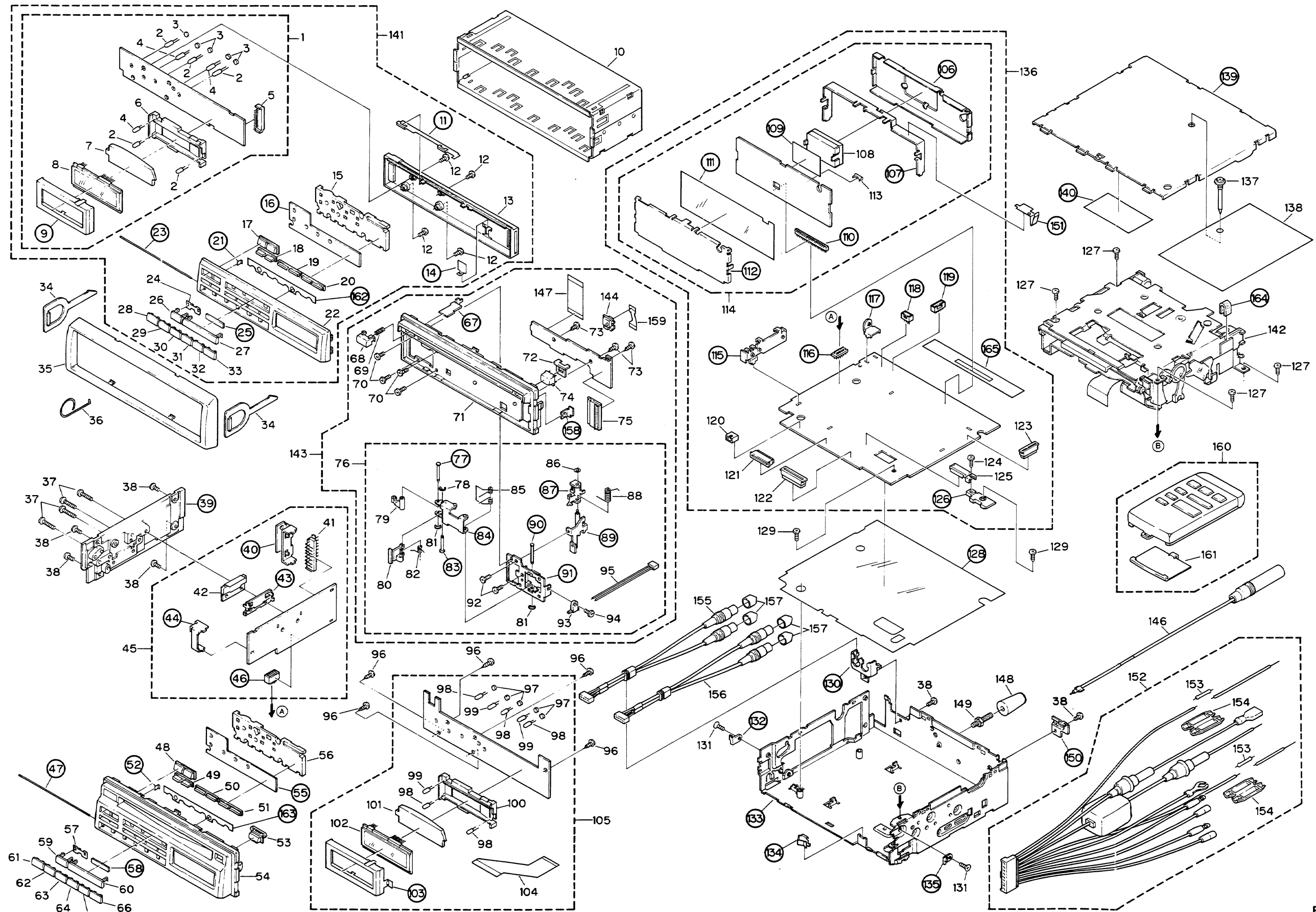


Fig. 76

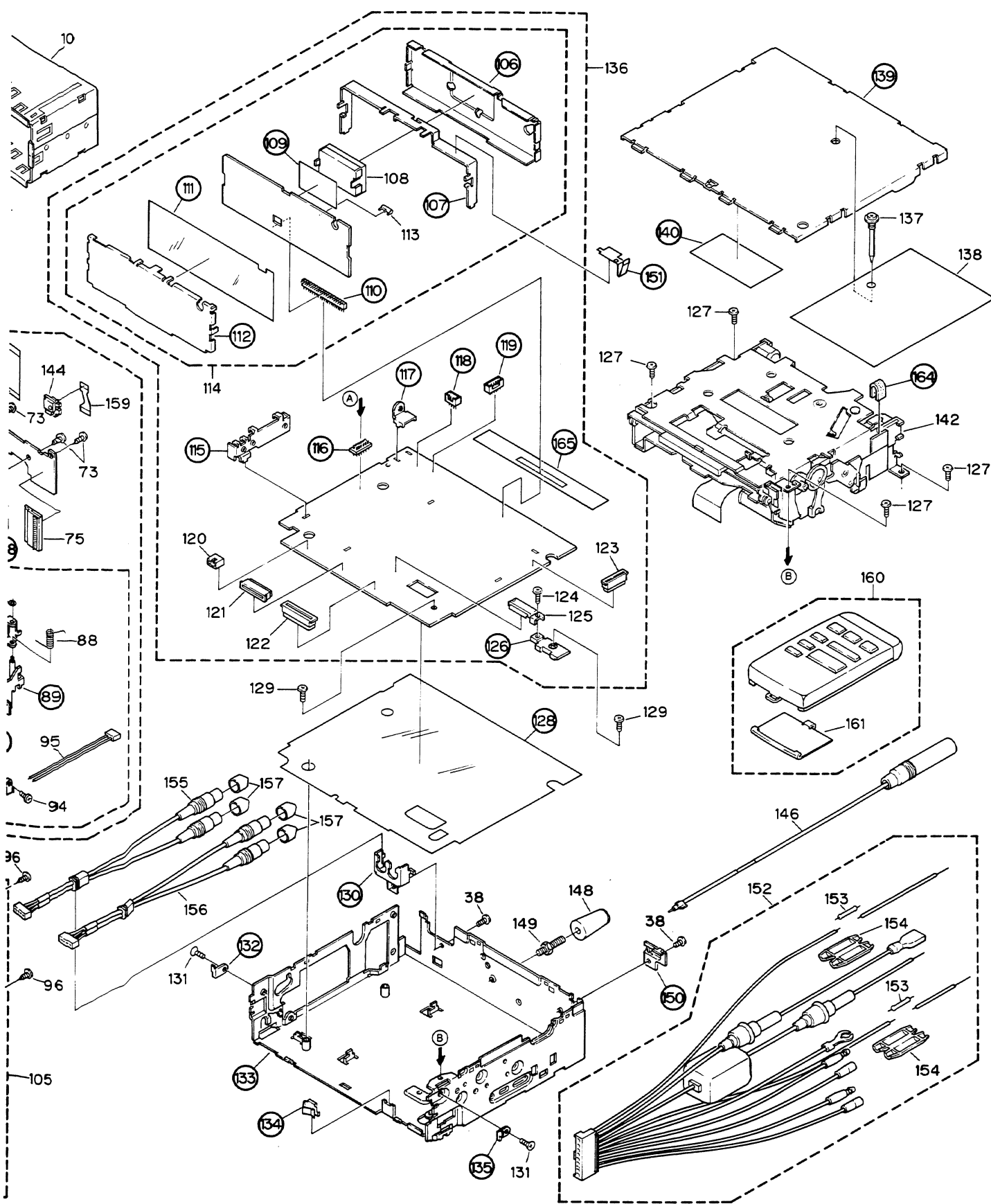


Fig. 76

● Parts List (DEH-770/UC)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
A					
1	Display Unit	CWX1351	41	Plug	CKS-466
2	Lamp	CEL-147	42	IC	AN7188K
3	Bush	CNW-766	43	Holder	CNC2969
4	Lamp	CEL1025	44	Holder	CNC2970
5	Plug	CKS1663	45	Amp Unit	CWH1106
6	Holder	CNV2307	46	Connector	CKS-747
7	Lens	CNV2305	47-66	.....
8	LCD	CAW1074	67	Holder	CNC2976
9	Case	CNC3389	68	Button	CAC2242
10	Holder	CNC1484	69	Spring	CBH1314
11	Plate	CNC3198	70	Screw	PMS20P030FZK
12	Screw	BMZ20P050FZK	71	Grille Unit	CXA3748
13	Grille	CNS1849	72	Holder	CNV2614
14	Holder	CNC3199	73	Screw	BPZ20P040FMC
15	Lens	CNV2304	74	Lens	CNS2072
16	Cushion	CNM2656	75	Socket	CKS1664
17	Button	CAC2243	76	Detach Unit	CXA3446
18	Button	CAC2241	77	Shaft	CLA1802
19	Button	CAC2350	78	Washer	YE12FUC
20	Button	CAC2351	79	Arm	CNV2483
21	Stopper	CNC3208	80	Holder	CNV2306
22	Grille Unit	CXA3944	81	Washer	YE15FUC
23	Shaft	CLA1807	82	Spring	CBH1364
24	Cushion	CNM2978	83	Shaft	CLA1709
25	Cushion	CNM2655	84	Holder Unit	CXA3292
26	Button	CAC2240	85	Spring	CBH1315
27	Button	CAC2239	86	Washer	WT22D050D025
28	Button	CAC2344	87	Holder Unit	CXA3291
29	Button	CAC2345	88	Spring	CBH1328
30	Button	CAC2346	89	Arm	CNC2972
31	Button	CAC2347	90	Shaft	CLA1711
32	Button	CAC2348	91	Holder Unit	CXA3293
33	Button	CAC2349	92	Screw	BMZ20P040FMC
34	Handle	CNC1631	93	Switch	CSN1012
35	Panel	CNS1911	94	Screw	BMZ20P060FMC
36	Spring	CBH-865	95	Cord	CDE2626
37	Screw	BMZ30P140FMC	96-105	.....
38	Screw	BMZ30P050FMC	106	.....
39	Heat Sink	CNR1153	107	Holder	CNC2880
40	Holder	CNC2974	108	FM Front End	CWB1035
B					
C					
D					

Mark No.	Description	Part No.	Mark No.	Description	Part No.
109	Insulator	CNM2105	139	Case	CNB1305
110	Plug (20P)	CKS1628	140	Insulator	CNM2336
111	.....		141	Display Assy	CXA3962
112	.....		① 142	CD Mechanism Unit	CXK2410
113	Antenna Jack	CKX1010	143	Detach Grille Assy	CXA3980
① 114	FM/AM Tuner Unit	CWE1169	144	Composite Part	CWW1327
115	Holder	CNC2968	145	.....
116	Plug	CKS-728	146	Antenna Cable	CDH1104
117	Holder	CNC3203	147	P.C. Board	CNP2518
118	Plug	CKS-785	148	Bush	CNV1917
119	Connector	CKS2032	149	Screw	CBA1002
120	Plug	CKS-696	150	Holder	CNC2742
121	Connector	CKS1535	151	Plate	CNC3382
122	Connector	CKS1572	152	Cord Assy	CDE3283
123	Connector	CKS1565	153	Resistor	RS1/2PS102JL
124	Screw	HBA-165	154	Cap	CNS1472
125	IC	AN8377N	155	Cord	CDE3056
126	Plate	CNC3204	156	Cord	CDE3219
127	Screw	BMZ26P040FMC	157	Cap	CNW-829
128	Insulator	CNM2494	158	Holder	CNC3351
129	Screw	PMS26P040FMC	159	P.C. Board	CNP2519
130	Holder	CNC3082	160	Remote Control Assy	CXA4015
131	Screw	CMZ26P040FMC	161	Battery Cover	CNS2197
132	Holder	CNC3331	162	Spacer	CNM2802
133	Chassis Unit	CXA3289	163	.....
134	Plate	CNC3649	164	Cushion	CNM1999
135	Holder	CNC3332	165	.....
① 136	CD Tuner Unit	CWX1341			
137	Screw	CBA1094			
138	Caution Card	CRP1031			

	DEH-770/UC	DEH-85/US	DEH-760/UC	DEH-710/ES
Mark No. Description	Part No.	Part No.	Part No.	Part No.
22 Grille Unit	CXA3944	CXA3951	CXA3948	CXA3947
① 114 FM/AM Tuner Unit	CWE1169	CWE1169	CWE1169	CWE1168
① 136 CD Tuner Unit	CWX1341	CWX1341	CWX1341	CWX1344
141 Display Assy	CXA3962	CXA3966	CXA3964	CXA3972
143 Detach Grille Assy	CXA3980	CXA3980	CXA3981	CXA3980
144 Composite Part	CWW1327	CWW1327	.....	CWW1327
155 Cord	CDE3056	CDE3054	CDE3056	CDE3054
156 Cord	CDE3219	CDE3055	CDE3219	CDE3055
159 P.C. Board	CNP2519	CNP2519	CNP2618	CNP2519
160 Remote Control Assy	CXA4015	CXA4017	.....	CXA4016
161 Battery Cover	CNS2197	CNS2197	.....	CNS2197

● Parts List (DEH-770SDK/WG)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
①	1 Display Unit	CWX1352	41 Plug	CKS-466	
	2 Lamp	CEL-147	42 IC	AN7188K	
	3 Bush	CNW-766	43 Holder	CNC2969	
	4 Lamp	CEL1013	44 Holder	CNC2970	
	5 Plug	CKS1663	① 45 Amp Unit	CWH1106	
	6 Holder	CNV2307	46 Connector	CKS-747	
	7 Lens	CNV2305	47-66		
	8 LCD	CAW1074	67 Holder	CNC2976	
	9 Case	CNC3389	68 Button	CAC2242	
	10 Holder	CNC1484	69 Spring	CBH1314	
	11 Plate	CNC3198	70 Screw	PMS20P030FZK	
	12 Screw	BMZ20P050FZK	71 Grille Unit	CXA3748	
	13 Grille	CNS1849	72 Holder	CNV2614	
	14 Holder	CNC3199	73 Screw	BPZ20P040FMC	
	15 Lens	CNV2304	74 Lens	CNS2072	
	16 Cushion	CNM2656	75 Socket	CKS1664	
	17 Button	CAC2243	① 76 Detach Unit	CXA3446	
	18 Button	CAC2241	77 Shaft	CLA1802	
	19 Button	CAC2350	78 Washer	YE12FUC	
	20 Button	CAC2351	79 Arm	CNV2483	
	21 Stopper	CNC3208	80 Holder	CNV2306	
	22 Grille Unit	CXA3946	81 Washer	YE15FUC	
	23 Shaft	CLA1807	82 Spring	CBH1364	
	24 Cushion	CNM2978	83 Shaft	CLA1709	
	25 Cushion	CNM2655	84 Holder Unit	CXA3292	
	26 Button	CAC2240	85 Spring	CBH1315	
	27 Button	CAC2239	86 Washer	WT22D050D025	
	28 Button	CAC2344	87 Holder Unit	CXA3291	
	29 Button	CAC2345	88 Spring	CBH1328	
	30 Button	CAC2346	89 Arm	CNC2972	
	31 Button	CAC2347	90 Shaft	CLA1711	
	32 Button	CAC2348	91 Holder Unit	CXA3293	
	33 Button	CAC2349	92 Screw	BMZ20P040FMC	
	34 Handle	CNC1631	93 Switch	CSN1012	
	35 Panel	CNS1911	94 Screw	BMZ20P060FMC	
	36 Spring	CBH-865	95 Cord	CDE2626	
	37 Screw	BMZ30P140FMC	96-105		
	38 Screw	BMZ30P050FMC	106 Case	CNB1279	
	39 Heat Sink	CNR1153	107 Holder	CNC2880	
	40 Holder	CNC2974	108 FM Front End	CWB1035	

Mark No.	Description	Part No.	Mark No.	Description	Part No.
109	Insulator	CNM2105	139	Case	CNB1305
110	Plug (21P)	CKS1735	140	Insulator	CNM2336
111	Insulator	CNM2391	141	Display Assy	CXA3970
112	Case	CNB1280	④ 142	CD Mechanism Unit	CXK2410
113	Antenna Jack	CKX1010	143	Detach Grille Assy	CXA3980
④ 114	FM/AM Tuner Unit	CWE1187	144	Composite Part	CWW1327
115	Holder	CNC2968	145	.....
116	Plug	CKS-728	146	Antenna Cable	CDH1104
117	Holder	CNC3203	147	P. C. Board	CNP2518
118	Plug	CKS-785	148	Bush	CNV1917
119	Connector	CKS2032	149	Screw	CBA1002
120	Plug	CKS-696	150	Holder	CNC2742
121	Connector	CKS1535	151	Plate	CNC3382
122	Connector	CKS1572	152	Cord Assy	CDE3285
123	Connector	CKS1565	153	Resistor	RS1/2PS102JL
124	Screw	HBA-165	154	Cap	CNS1472
125	IC	AN8377N	155	Cord	CDE3054
126	Plate	CNC3204	156	Cord	CDE3055
127	Screw	BMZ26P040FMC	157	Cap	CNW-829
128	Insulator	CNM2494	158	Holder	CNC3351
129	Screw	PMS26P040FMC	159	P. C. Board	CNP2519
130	Holder	CNC3082	160	Remote Control Assy	CXA4016
131	Screw	CMZ26P040FMC	161	Battery Cover	CNS2197
132	Holder	CNC3331	162	Spacer	CNM2802
133	Chassis Unit	CXA4019	163	.....
134	Plate	CNC3649	164	Cushion	CNM1999
135	Holder	CNC3332	165	Insulator	CNM2996
④ 136	CD Tuner Unit	CWX1343			
137	Screw	CBA1094			
138	Caution Card	CRP1031			

	DEH-770SDK/WG	DEH-770/EW	DEH-760SDK/WG	DEH-760/EW
Mark No. Description	Part No.	Part No.	Part No.	Part No.
22 Grille Unit	CXA3946	CXA3945	CXA3950	CXA3949
106 Case	CNB1279	.....	CNB1279	.....
110 Plug	CKS1735 (21P)	CKS1628 (20P)	CKS1735 (21P)	CKS1628 (20P)
111 Insulator	CNM2391	.....	CNM2391	.....
112 Case	CNB1280	.....	CNB1280	.....
● 114 FM/AM Tuner Unit	CWE1187	CWE1167	CWE1187	CWE1167
119 Connector	CKS2032	CKS2032	.....	.....
130 Holder	CNC3082	CNC3082	CNC3081	CNC3081
133 Chassis Unit	CXA4019	CXA3289	CXA4020	CXA3289
● 136 CD Tuner Unit	CWX1343	CWX1342	CWX1349	CWX1348
141 Display Assy	CXA3970	CXA3968	CXA3979	CXA3977
143 Detach Grille Assy	CXA3980	CXA3980	CXA3981	CXA3981
144 Composite Part	CWW1327	CWW1327	.....	.....
152 Cord Assy	CDE3285	CDE3284	CDE3285	CDE3284
155 Cord	CDE3054	CDE3054	CDE3056	CDE3056
156 Cord	CDE3055	CDE3055	.....	.....
157 Cap	CNW-829 (× 4)	CNW-829 (× 4)	CNW-829 (× 2)	CNW-829 (× 2)
159 P.C. Board	CNP2519	CNP2519	CNP2618	CNP2618
160 Remote Control Assy	CXA4016	CXA4016	.....	.....
161 Battery Cover	CNS2197	CNS2197	.....	.....
165 Insulator	CNM2996	.....	CNM2996	.....

● Parts List (DEH-660/UC)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1-9	.....		99	Lamp	CEL1025
10	Holder	CNC1484	100	Holder	CNV2307
11-33	.....		101	Lens	CNV2305
34	Handle	CNC1631	102	LCD	CAW1074
35	Panel	CNS1911	103	Case	CNC3390
36	Spring	CBH-865	104	P. C. Board	CNP2255
37	Screw	BMZ30P140FMC	⑩ 105	Display Unit	CWX1353
38	Screw	BMZ30P050FMC	106	.....
39	Heat Sink	CNR1153	107	Holder	CNC2880
40	Holder	CNC2974	108	FM Front End	CWB1035
41	Plug	CKS-466	109	Insulator	CNM2105
42	IC	AN7188K	110	Plug (20P)	CKS1628
43	Holder	CNC2969	111	.....
44	Holder	CNC2970	112	.....
⑩ 45	Amp Unit	CWH1106	113	Antenna Jack	CKX1010
46	Connector	CKS-747	⑩ 114	FM/AM Tuner Unit	CWE1169
47	Shaft	CLA1807	115	Holder	CNC2968
48	Button	CAC2243	116	Plug	CKS-728
49	Button	CAC2241	117	Holder	CNC3203
50	Button	CAC2350	118	Plug	CKS-785
51	Button	CAC2351	119	Connector	CKS2032
52	Stopper	CNC3208	120	.....
53	Button	CAC2877	121	Connector	CKS1535
54	Grille Unit	CXA3952	122	Connector	CKS1572
55	Cushion	CNM2656	123	Connector	CKS1565
56	Lens	CNV2304	124	Screw	HBA-165
57	Cushion	CNM2978	125	IC	AN8377N
58	Cushion	CNM2655	126	Plate	CNC3204
59	Button	CAC2240	127	Screw	BMZ26P040FMC
60	Button	CAC2239	128	Insulator	CNM2494
61	Button	CAC2344	129	Screw	PMS26P040FMC
62	Button	CAC2345	130	Holder	CNC3082
63	Button	CAC2346	131	Screw	CMZ26P040FMC
64	Button	CAC2347	132	Holder	CNC3331
65	Button	CAC2348	133	Chassis Unit	CXA3289
66	Button	CAC2349	134	.....
67-95	.....		135	Holder	CNC3332
96	Screw	BLZ20P050FMC	⑩ 136	CD Tuner Unit	CWX1345
97	Bush	CNW-766	137	Screw	CBA1094
98	Lamp	CEL-147	138	Caution Card	CRP1031

Mark No.	Description	Part No.	Mark No.	Description	Part No.
139	Case	CNB1305	151	Plate	CNC3382
140	Insulator	CNM2336	152	Cord Assy	CDE3283
141	.....		153	Resistor	RS1/2PS102JL
◎ 142	CD Mechanism Unit	CXK2410	154	Cap	CNS1472
143—145	.....		155	Cord	CDE3056
146	Antenna Cable	CDH1104	156	Cord	CDE3219
147	.....		157	Cap	CNW-829
148	Bush	CNV1917	158—162	.....
149	Screw	CBA1002	163	Spacer	CNM2802
150	Holder	CNC2742	164	Cushion	CNM1999
			165	.....

	DEH-660/UC	DEH-630/US	DEH-610/ES
Mark No. Description	Part No.	Part No.	Part No.
54 Grille Unit	CXA3952	CXA3953	CXA3954
97 Bush	CNW-766 (× 5)	CNW-766 (× 2)	CNW-766 (× 2)
98 Lamp	CEL-147	.....	.....
◎ 105 Display Unit	CWX1353	CWX1354	CWX1354
◎ 114 FM/AM Tuner Unit	CWE1169	CWE1186	CWE1168
119 Connector	CKS2032	.....	.....
130 Holder	CNC3082	CNC3081	CNC3081
◎ 136 CD Tuner Unit	CWX1345	CWX1346	CWX1347
156 Cord	CDE3219	.....	.....
157 Cap	CNW-829 (× 4)	CNW-829 (× 2)	CNW-829 (× 2)

21. PACKING METHOD

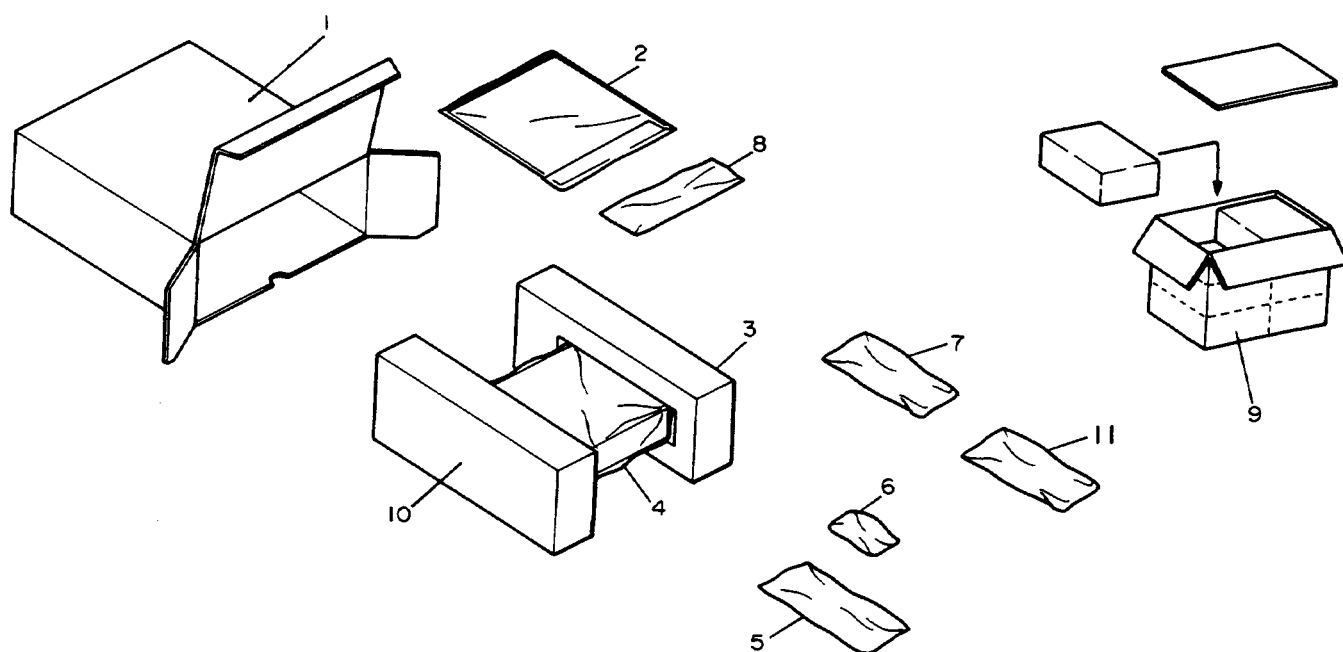


Fig. 77

* 2-1 Owner's Manual

Part No.	Model	Language
CRD1445	DEH-770SDK/WG DEH-760SDK/WG	German, French
CRD1446	DEH-770/EW DEH-760/EW	English, French, German, Spanish, Portuguese
CRD1447	DEH-770/EW DEH-760/EW	Swedish, Norwegian, Dutch, Finnish, Italian
CRD1444	DEH-770/UC DEH-760/UC DEH-660/UC	English, French
CRB1211	DEH-85/US	English
CRD1448	DEH-710/ES DEH-610/ES	English, French, Spanish, Arabic
CRD1449	DEH-630/US	English, Spanish

• Parts List

Mark No.	Description	DEH-770SDK/WG	DEH-770/EW	DEH-760SDK/WG	DEH-760/EW
		Part No.	Part No.	Part No.	Part No.
1	Carton	CHG1943	CHG1941	CHG1944	CHG1942
* 2-1	Owner's Manual	CRD1445	CRD1446	CRD1445	CRD1446
		.....	CRD1447	.....	CRD1447
2-2	Caution Card				
2-3	Caution Card		.....		.....
2-4	Card				
2-5	Passport		.....		.....
2-6	Seal				
2-7	Battery			.....	.....
2-8	Fastener (Rough)	CNM1716	CNM1716	.....	.....
2-9	Fastener (Soft)	CNM1717	CNM1717	.....	.....
3	Styrofoam (R)	CHP1332	CHP1332	CHP1332	CHP1332
4	Cover	CEG1092	CEG1092	CEG1092	C1G1092
* 5	Accessory Assy	CEA1381	CEA1381	CEA1381	CEA1381
6	Cord Assy	CDE3285	CDE3284	CDE3285	CDE3284
7	Panel	CNS1911	CNS1911	CNS1911	CNS1911
8	Case	CNS2034 ✓	CNS2034	CNS2034	CNS2034
	For Detach Grille				
9	Contain Box	.....	.....	.....	.....
10	Styrofoam (L)	CHP1331	CHP1331	CHP1331	CHP1331
11	Remote Control Assy	CXA4016	CXA4016	.....	.....
11-1	Battery Cover	CNS2197	CNS2197	.....	.....

* 5 Accessory Assy CEA1381					
Mark No.	Description	Part No.	Mark No.	Description	Part No.
5-1	Screw Assy	CEA1503	5-2	Strap	CNF-111
5-1-1	Screw (× 1)	BMZ40P080FMC	5-3	Bush	CNV1917
5-1-2	Screw (× 4)	BMZ50P080FMC	5-4	Spring (× 1)	CBH-865
5-1-3	Screw (× 1)	CBA-102	5-5	Handle (× 2)	CNC1631
5-1-4	Screw (× 1)	CBA1002			
5-1-5	Nut (× 2)	NF50FMC			

• Parts List

Mark No.	Description	DEH-770/UC	DEH-85/US	DEH-760/UC	DEH-710/ES	DEH-660/UC	DEH-630/US	DEH-610/ES
		Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1	Carton	CHG1945	CHG1948	CHG1946	CHG1950	CHG1947	CHG1949	CHG1951
* 2-1	Owner's Manual	CRD1444	CRB1211	CRD1444	CRD1448	CRD1444	CRD1449	CRD1448
2-2	Caution Card							
2-3	Card				.....			.....
2-4	Seal							
2-5	Battery			.....		.....	.....	.....
2-6	Fastener (Rough)	CNM1716	CNM1716	.....	CNM1716	.....	.....	.....
2-7	Fastener (Soft)	CNM1717	CNM1717	.....	CNM1717	.....	.....	.....
3	Styrofoam (R)	CHP1332	CHP1332	CHP1332	CHP1332	CHP1332	CHP1332	CHP1332
4	Cover	CEG1092	CEG1092	CEG1092	CEG1092	CEG1092	CEG1092	CEG1092
* 5	Accessory Assy	CEA1381	CEA1381	CEA1381	CEA1381	CEA1381	CEA1381	CEA1381
6	Cord Assy	CDE3283	CDE3283	CDE3283	CDE3283	CDE3283	CDE3283	CDE3283
7	Panel	CNS1911	CNS1911	CNS1911	CNS1911	CNS1911	CNS1911	CNS1911
8	Case	CNS2034	CNS2034	CNS2034	CNS2034	.....	.....	.....
	For Detach Grille							
9	Contain Box	CHL1945	CHL1948	CHL1946	.....	CHL1947	CHL1949	.....
10	Styrofoam (L)	CHP1331	CHP1331	CHP1331	CHP1331	CHP1331	CHP1331	CHP1331
11	Remote Control Assy	CXA4015	CXA4017	.....	CXA4016	.....	.....	.....
11-1	Battery Cover	CNS2197	CNS2197	.....	CNS2197	.....	.....	.....

22. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/8S□□□J, RS1/10S□□□J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

Unit Number :
Unit Name : Amp Unit

MISCELLANEOUS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
IC	551			AN7188K	
D	551			5227	
D	552	954	955	ERA15-02VH	
D	557	959		ERC04-02FE3	

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	551	552	553	RS1/10S2R2J	
R	555	956		RS1/10S0R0J	
R	557			RS1/10S223J	

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	551	552	553	COEA104J63	
C	555			CEHAQ221M16	
C	556			CEA330M16LS	
C	557	558		CCSQCH102J50	
C	559			CKSQYB103K50	

C	551		EMI Filter	CCG1006	
C	552			CEHAQ102M16	
C	553			CEHAQ222M16	
C	554	955	956	CEA010M50LL	

Unit Number : CWW1327
Unit Name : Composite Part
(DEH-770/UC, DEH-85/US, DEH-710/ES, DEH-770SDK/WG, DEH-770/EW)

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
IC	1			RS-20	
SW	1		Switch(EJECT)	CSG-253	

Unit Number : CWW1317
Unit Name : Composite Unit (CR352)

Mark	=====	Circuit Symbol & No.					====	Part Name	Part No.
VR	1	2	3	4	5	6	Semi-fixed 47kΩ (B)	CCP1104	
VR	7	8					Semi-fixed 10kΩ (B)	CCP1100	
R	1	2						RS1/10S752J	
R	3	4						RS1/10S393J	
R	5	6						RS1/10S563J	
R	7	8						RS1/10S184J	

Unit Number :
Unit Name : Carriage P.C. Board

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
M	831			Motor Unit (Spindle)	CXM1054
M	832			Motor Unit (Carriage)	CXA3347
S	831			Switch (Home)	CSN1018

Unit Number :
Unit Name : Mechanism P.C. Board

Mark	=====	Circuit Symbol & No.	=====	Part Name	Part No.	
D	834	835	836	837	LED(Disc detect)	SLH-34VC
M	833				Motor Unit(Loading)	CXA2129
S	832				Switch(Disc set)	CSN1020

Unit Number :
Unit Name : Detector P.C. Board

Mark	=====	Circuit Symbol & No.	=====	Part Name	Part No.
Q	831 832 833 834	Photo-transistor			PH102

Unit Number :
Unit Name : Miscellaneous Parts List

Mark	Circuit Symbol & No.	DEH-770/UC DEH-85/US DEH-710/ES DEH-770SDK/WG DEH-770/EW	DEH-760/UC DEH-760SDK/WG DEH-760/EW	DEH-660/UC DEH-630/US DEH-610/ES
SW1	Switch(EJECT)	.....	CSG-253	.....
SW2	Switch(DSENS)	CSN1012	CSN1012	.....
R921	PU Unit	RD1/4PS102JL	CGY1015	CGY1015

Unit Number :
Unit Name : Display Unit (DEH-770/UC, DEH-85/US, DEH-760/UC, DEH-710/ES)

MISCELLANEOUS

Mark	=====	Circuit Symbol & No.				====	Part Name	Part No.
IC	901							LC7582A
D	901	902	903		Chip Diode			MA153-MC
D	904				Chip Diode			MA151A-MA
L	901				Ferri-Inductor			CTF-157
SW	901	902	903	904	905	Switch		CSG-253

Mark	=====	Circuit Symbol & No.					=====	Part Name	Part No.
SW	906	907	908	909	910			Switch	CSG-253
SW	911	912	914	915	916	917	918	Switch	CSG-253
IL	901	902	906					Lamp 14V 40mA	CEL1025
IL	903	904	905	907	908			Lamp 14V 40mA	CEL-147
								LCD	CAW1074

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	901	902	903		RD1/4PS103JL
R	904	905			RS1/10S104J
R	906	911	916		RS1/10S162J
R	907	912	917		RS1/10S242J
R	908	913	918		RS1/10S392J
R	909	914	919		RS1/10S822J
R	910	915	920		RS1/10S303J

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	901			CEA470M6R3LS	
C	902			CKSQYB103K50	
C	903			CCSQCH301J50	
C	904			CKSYB224K25	

Display Unit (DEH-660/UC, DEH-630/US, DEH-610/ES)

Display Unit	DEH-770/UC DEH-85/US DEH-760/UC DEH-710/ES	DEH-660/UC	DEH-630/US DEH-610/ES
D901, 902, 903	MA153-MC	.....	.....
D904	MA151-WA	.....	.....
SW913	.....	CSG1014	CSG1014
IL903, 904, 905, 907, 908	CEL-147	CEL-147	.....

Unit Number :
Unit Name : Display Unit (DEH-770SDK/WG, DEH-770/EW, DEH-760SDK/WG, DEH-760/EW)

MISCELLANEOUS

Mark	=====	Circuit Symbol & No.					=====	Part Name	Part No.
IC	901								LC7582A
D	901	902	903			Chip Diode			MA153-MC
D	904					Chip Diode			MA151A-MA
L	901					Ferri-Inductor			CTF-157
SW	901	902	903	904	905	906	Switch		CSG-253
SW	907	908	909	910	911	912	Switch		CSG-253
SW	914	915	916	917	918		Switch		CSG-253
IL	901	902	906				Lamp 14V 40mA		CEL1013
IL	903	904	905	907	908		Lamp 14V 40mA		CEL-147
						LCD			CAW1074

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	901	902	903		RD1/4PS103JL
R	904	905			RS1/10S104J
R	906	911	916		RS1/10S162J
R	907	912	917		RS1/10S242J
R	908	913	918		RS1/10S392J
R	909	914	919		RS1/10S822J
R	910	915	920		RS1/10S303J

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	901			CEA470M6R3LS	
C	902			CKSQYB103K50	
C	903			CCSQCH301J50	
C	904			CKSYB224K25	

Unit Number :
Unit Name : FM/AM Tuner Unit (DEH-770/UC, DEH-85/US, DEH-760/UC, DEH-660/UC)

MISCELLANEOUS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
IC	51			PA4012B	
IC	201			PA4010	
Q	1			Chip Transistor	2SB709
Q	2			Chip Transistor	DTC124EK
Q	3			Chip Transistor	2SA1162
Q	101				2SD1819
Q	201				2SK435
Q	202				2SC2412K
Q	203	205		Chip Transistor	DTC124EK
D	11	12		Chip Diode	1SV128A-BB
D	201	204		Chip Diode	MA157-WR
D	205				SVC203-M1
L	1	51		Inductor	CTF1148
L	11	12		Inductor	CTF1065
L	101			Inductor	CTF1170
L	201			Ferri-Inductor	CTF1026
L	203			Ferri-Inductor	LAU220K
L	204			Ferri-Inductor	LAU470K
L	205			Ferri-Inductor	LAU487K
L	206			Ferri-Inductor	CTF-157
T	51			Coil	CTE1021
T	52			Coil	CTE1022
T	201			Coil	CTB1020
T	202			Coil	CTB1004
T	203			Coil	CTB1040
T	204			Coil	CTE1037
T	205			Coil	CTE1038
T	206			Coil	CTE1039
CG	1			Surge Protector	DSP-201M
TH	51	102		Thermister	DTN-T204D154K
CF	51	52		Ceramic Filter	CTF-182
CF	201			Ceramic Filter	CTF1041
CF	202			Filter	CTF1085
X	151			Ceramic Resonator	CSS1055
X	201			Crystal Resonator	CSS1014
VR	1			Semi-fixed 100kΩ (B)	VRTB4VS104
VR	51	101	102	Semi-fixed 33kΩ (B)	VRTB4VS333
				FM Front End	CWB1035

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	2	7			RS1/10S223J
R	3				RS1/10S683J
R	4				RS1/10S682J
R	5	63			RS1/10S0R0J
R	6	59			RS1/10S331J
R	8				RS1/10S331J
R	9	58			RS1/10S223J

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	10	14			RS1/10S0R0J
R	11				RS1/10S104J
R	12				RS1/10S470J
R	54				RS1/10S472J
R	56	104			RS1/10S393J
R	57				RS1/10S562J
R	64				RS1/10S222J
R	101				RS1/10S471J
R	102				RS1/10S822J
R	105				RS1/10S332J
R	106				RS1/10S333J
R	107				RS1/10S102J
R	108				RS1/10S104J
R	111				RS1/10S123J
R	112				RS1/10S684J
R	151	152			RS1/10S152J
R	153				RS1/10S222J
R	201				RS1/10S220J
R	202				RS1/10S681J
R	203	206 214			RS1/10S222J
R	204	213			RS1/10S473J
R	205	209			RS1/10S470J
R	207				RS1/10S822J
R	208	211 212			RS1/10S103J
R	210				RS1/10S682J
R	215				RS1/10S153J

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	1				CKSQYB102K50
C	2	3 104			CKSQYB103K50
C	4	59			CKSQYF473225
C	11	12 13 14			CCSQCH220J50
C	15				CKSQYB223K25
C	51				CKSQYF473225
C	52	53			CKSQYB223K25
C	54				CCSQL101J50
C	55				CKSQYB102K50
C	56				CKSQYF104Z25
C	57				CEAR68M50LS2
C	58				CCSQCH060D50
C	60				CEALNP100M6R3
C	101				CKSQYB392K50
C	102				CKSQYB682K50
C	103				CKSQYB392K50
C	105				CEA2R2M50LL
C	106				CEA220M6R3LL
C	107	108			CKSQYB222K50
C	110				CEA010M50LL
C	111				CEA100M16LL
C	112				CEA0R1W50LL
C	151	152			CKSQYB563K25
C	153				CS2AR47M35L
C	154	155 156			CEA3R3M50LL
C	157				CEA101M10LS
C	201	223 228			CKSQYB103K25
C	202	212			CKSQYB332K50
C	203	215 216 219 226			CKSQYF473225
C	204	208 210			CKSQYB223K25
C	205				CCSQCH220J50
C	206	207			CCSQCH820J50

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	211				CEA2R2M50LL
C	213				CCSQCH390J50
C	218				CEA2R2M35NPLL
C	220				CCSQCH430J50
C	221				CCSQCH100D50
C	222				CS2A010K35L
C	224				CEA470M16LL
C	225				CKSQYB333K25
C	227				CEA4R7M35LS
C	229				CEA470M16LS
C	230				CEA220M16LL

FM/AM Tuner Unit (DEH-710/ES, DEH-630/US, DEH-610/ES)

	DEH-770/UC DEH-85/US DEH-760/UC DEH-660/UC	DEH-630/US	DEH-710/ES DEH-610/ES
Q3	2SA1162	.....	.....
D11, 12	1SV128A-BB	.....	.....
L1, 51	CTF1148	CTF1148	CTF1104
L2	.....	.....	CTF1086
L11, 12	CTF1065	.....	.....
L101	CTF1170	CTF1170	CTF1126
VR1	VRTB4VS104	VRTB4VS103	VRTB4VS103
R3	RS1/10S683J	RS1/10S124J	RS1/10S124J
R8	RS1/10S331J	.....	.....
R9	RS1/10S223J	.....	.....
R10	RS1/10S0R0J	RS1/10S0R0J	RS1/10S560J
R11	RS1/10S104J	.....	.....
R12	RS1/10S470J	.....	.....
R13	.....	RS1/10S0R0J	RS1/10S0R0J
R14	RS1/10S0R0J	RS1/10S0R0J	.....
R58	RS1/10S223J	RS1/10S223J	RS1/10S393J
C11, 12, 13, 14	CCSQCH220J50	.....	.....
C15	CKSQYB223K50	.....	.....
C57	CEAR68M50LS2	CEAR68M50LS2	CS2AR33K35

Unit Number :

Unit Name : FM/AM Tuner Unit (DEH-770SDK/WG, DEH-760SDK/WG)

MISCELLANEOUS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
IC	51				PA4012B
IC	201				PA4010
Q	1		Chip Transistor		2SB709
Q	2		Chip Transistor		DTC124EK
Q	51		Chip Transistor		DTA114TK
Q	101				2SD1819
Q	201				2SK435
Q	202				2SC2412K
Q	203 205		Chip Transistor		DTC124EK
D	201 204		Chip Diode		MA157-MR
D	205				SVC203-M1
L	1 51		Inductor		CTF1104
L	2		Inductor		CTF1086
L	101		Inductor		CTF1126
L	201		Inductor		CTF1084

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
L	203			Ferri-Inductor	LAU220K
L	204			Ferri-Inductor	LAU470K
L	205			Ferri-Inductor	LAU47K
L	206			Ferri-Inductor	CTF-157
T	51			Coil	CTE1021
T	52			Coil	CTE1022
T	201			Coil	CTB1020
T	202			Coil	CTB1004
T	203			Coil	CTB1040
T	204			Coil	CTE1037
T	205			Coil	CTE1038
T	206			Coil	CTE1039
CG	1				DSP-201M
TH	51 102			Thermistor	DTN-T204D154K
CF	51 52			Ceramic Filter	CTF-182
CF	201			Ceramic Filter	CTF1041
CF	202			Filter	CTF1085
X	151			Ceramic Resonator	CSS1055
X	201			Crystal Resonator	CSS1014
VR	1			Semi-fixed 10kΩ (B)	VRTB4VS103
VR	51 101 102			Semi-fixed 33kΩ (B) FM Front End	VRTB4VS333 CWB1035

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	2 7				RS1/10S223J
R	3				RS1/10S124J
R	4				RS1/10S682J
R	5 13 63				RS1/10S0R0J
R	6 59 101				RS1/10S331J
R	10				RS1/10S560J
R	54				RS1/10S472J
R	56 58 104				RS1/10S393J
R	57				RS1/10S562J
R	60				RS1/10S473J
R	61 105				RS1/10S332J
R	64				RS1/10S222J
R	102				RS1/10S822J
R	106				RS1/10S333J
R	107				RS1/10S102J
R	108				RS1/10S104J
R	111				RS1/10S123J
R	112				RS1/10S684J
R	151 152 153				RS1/10S222J
R	201				RS1/10S220J
R	202				RS1/10S681J
R	203 206 214				RS1/10S222J
R	204 213				RS1/10S473J
R	205 209				RS1/10S470J
R	207				RS1/10S822J
R	208 211 212				RS1/10S103J
R	210				RS1/10S682J
R	215				RS1/10S153J

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	54				CCSQSL101J50
C	55				CKSQYB102K50
C	56				CKSQYF104Z25
C	57				CS2AR33K35
C	58				CCSOCH060D50
C	50				CEALNP100M6R3
C	101				CKSQYB822K50
C	102				CKSQYB682K50
C	103				CKSQYB392K50
C	105				CEA2R2M50LS2
C	106				CEA220M6R3LS
C	107 108				CKSQYB222K50
C	110				CEA010M50LS2
C	111				CEA100M16LS2
C	112				CEA0R1M50LS2
C	151 152				CKSQYB273K25
C	153				CS2AR47M35L
C	154 155 156				CEA3R3M50LS
C	157				CEA101M10LS
C	201 223 228				CKSQYB103K25
C	202 212				CKSQYB332K50
C	203 215 216 219 226				CKSQYF473Z25
C	204 208 210				CKSQYB223K25
C	205				CCSOCH220J50
C	206 207				CCSOCH820J50
C	211				CEA2R2M50LS2
C	213				CCSOCH390J50
C	218				CEALNP2R2M35
C	220				CCSOCH430J50
C	221				CCSOCH100D50
C	222				CS2A01 0K35L
C	224				CEA470M16LS
C	225				CKSQYB333K25
C	227				CEA4R7M35LS
C	229				CEA470M16LS
C	230				CEA220M16LS

FM/AM Tuner Unit (DEH-770/EW, DEH-760/EW)

	DEH-770SDK/WG DEH-760SDK/WG	DEH-770/EW DEH-760/EW
Q51	DTA114TK	.....
R60	RS1/10S473J	.....
C105, 211	CEA2R2M50LS2	CEA2R2M50LL
C106	CEA220M6R3LS	CEA220M6R3LL
C110	CEA010M50LS2	CEA010M50LL
C111	CEA100M16LS2	CEA100M16LL
C112	CEA0R1M50LS2	CEA0R1M50LL
C154, 155, 156	CEA3R3M50LS	CEA3R3M50LL
C218	CEALNP2R2M35	CEA2R2M35NPLL
C224	CEA470M16LS	CEA470M16LL
C230	CEA220M16LS	CEA220M16LL

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	1				CKSQYB102K50
C	2 3 104				CKSQYB103K50
C	4 59				CKSQYF473Z25
C	51				CKSQYF473Z25
C	52 53				CKSQYB223K25

Unit Number :
Unit Name : CD Tuner Unit (DEH-770/UC, DEH-85/US, DEH-760/UC)

MISCELLANEOUS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
IC	351			CXA1081Q	
IC	451	853		M5218FP	
IC	452			CWW1213	
IC	501			LC7218W	
IC	601			CXA1082BQ	
IC	651			AN8377N	
IC	655	657 662 851 852		M5218FP	
IC	668	669		LA6501-FA	
IC	701			CXD1167Q	
IC	703			TC9237F	
IC	704			TA2009F	
IC	751			PD4306	
IC	752			M51955AFP	
IC	753			M54546AL	
IC	961			PA2018	
Q	351			2SB1243	
Q	352	758 759 760 766	Chip Transistor	UN2211	
Q	451	505 601 705	Chip Transistor	UN2211	
Q	502		Chip Transistor	2SC3098	
Q	503	504 515 516 517	Chip Transistor	2SC2712	
Q	509		Chip Transistor	2SC3295	
Q	510	513	Chip Transistor	2SC2712	
Q	602	603	Chip Transistor	2SD1048	
Q	651		Chip Transistor	2SD1760F5	
Q	652	752	Chip Transistor	UN2111	
Q	653		Chip Transistor	2SD601A	
Q	751			2SD1859	
Q	753		Chip Transistor	2SD601A	
Q	754	855 967	Chip Transistor	UN2111	
Q	755	756 757 761 762		2SB1238	
Q	763	764 765 767 968	Chip Transistor	UN2211	
Q	848	849	Chip Transistor	DTC323TK	
Q	851	852 853 854	Chip Transistor	DTC323TK	
Q	857		Chip Transistor	2SB709	
Q	965			2SD1684	
D	451	452 853	Chip Diode	MA151WK-MT	
D	453	454	Chip Diode	MA3047H	
D	457		Chip Diode	MA151WA-MN	
D	501	502 504	Chip Diode	MA151WK-MT	
D	503	753 758 760 762	Chip Diode	MA153-MC	
D	652			RD11JSB1	
D	653	754 964 965		ERA15-02VH	
D	661	662		HZS2ALL	
D	751	752 757 759	Chip Diode	MA153-MC	
D	755			RD6R8JSB1	
D	851		Chip Diode	MA151WA-MN	
D	963	970		RD5R6JSB2	
L	501	752	Inductor 0.33 μ H	CTF1082	
L	502	701	Inductor 0.33 μ H	CTF1082	
L	751	961	Ferri-Inductor	LAU150K	
L	962		Inductor 33 μ H	CTF1081	
TH	351		Thermistor	CCX1006	
TH	751		Thermistor	CCX1007	
BP	401		Buzzer	CPV1010	
X	501		Crystal Resonator	CSS1030	

Mark ===== Circuit Symbol & No. ===== Part Name Part No.

X	701	Crystal Resonator	CSS1052
X	751	Crystal Resonator	CSS1023
VR	604	Semi-fixed 2.2k Ω	CCP1015
CR	352	Composite Unit	CWW1317
		AM/FM Tuner Unit	

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	334	461 462 522 541 656 661 670 695 703		RS1/10S103J	
R	341			RD1/4PS221JL	
R	344	511 515 636 643 726 727 728 729 730		RS1/10S473J	
R	345	505 506 507 512 533 534 542 704		RS1/10S472J	
R	351	352		RD1/4PS110JL	
R	353	381 776 867 868 964		RS1/10S102J	
R	354	378 451 452 518 548		RS1/10S153J	
R	355			RS1/10S113J	
R	356	357 517 669		RS1/10S563J	
R	358	359		RS1/10S563J	
R	360	608		RS1/10S823J	
R	361	383		RS1/10S823J	
R	362			RS1/10S564J	
R	363			RS1/10S223J	
R	364	365 618		RS1/10S105J	
R	366	377 738 740 748 750		RS1/10S562J	
R	367	673 697 753 761 788 793		RS1/10S473J	
R	379			RS1/10S332J	
R	380	616 617 625		RS1/10S203J	
R	382	667		RS1/10S363J	
R	384	540 630		RS1/10S273J	
R	449	450 530 532 536 773 774		RS1/10S0R0J	
R	455	456 457 458 658 659 711 712 714 715		RS1/10S102J	
R	459	460		RS1/10S152J	
R	463	464 535 550 765 767 769 771 787		RS1/10S222J	
R	465			RS1/10S103J	
R	469	501 502 503 504 509 531 538 539 780		RS1/10S222J	
R	508	523 796		RS1/10S474J	
R	510			RS1/10S221J	
R	516	609 614 619 627		RS1/10S104J	
R	521			RS1/10S392J	
R	524	871		RS1/10S122J	
R	525	784 883 884		RS1/10S472J	
R	527	529 853 854 855 856 865 866 869 870		RS1/10S223J	
R	543			RS1/10S470J	
R	544	546 601 602		RS1/10S101J	
R	545			RS1/10S182J	
R	547	779		RS1/10S821J	
R	549			RS1/10S123J	
R	606	623		RS1/10S224J	
R	607			RS1/10S683J	
R	610	655		RS1/10S113J	
R	611	863 864		RS1/10S432J	
R	612			RS1/10S623J	
R	613			RS1/10S624J	
R	620			RS1/10S332J	
R	621			RS1/10S184J	
R	622	662 691 692 737 739 745 746 747 749		RS1/10S103J	
R	624			RS1/10S393J	
R	628	645		RS1/10S183J	
R	634			RS1/10S474J	
R	635	694		RS1/10S822J	
R	637	690		RS1/10S272J	

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	644				RS1/10S682J
R	651	653			RS1/10S163J
R	652				RS1/10S363J
R	654				RS1/10S150J
R	657	660			RS1/10S272J
R	665				RS1/10S562J
R	666				RS1/10S393J
R	668				RS1/10S183J
R	671				RS1/10S105J
R	672				RS1/10S364J
R	674				RS1/10S133J
R	676				RS1/10S201J
R	677				RS1/10S201J
R	693	696			RS1/10S586J
R	709	741 792 872			RS1/10S103J
R	718	719 877 878			RS1/10S102J
R	732	733 734 735 736 791 899			RS1/10S473J
R	742	743 744 754 756 758			RS1/8S182J
R	751	752			RS1/10S151J
R	755	757 759 795 797 798 799			RD1/4PS103JL
R	760				RS1/10S683J
R	762	763			RS1/10S103J
R	764	766 768 770 785			RS1/10S104J
R	778				RS1/10S752J
R	781	782 783 789 790			RS1/10S222J
R	851	852 873 874 897 898			RS1/10S432J
R	875	876 879 880			RS1/10S622J
R	881	882			RS1/10S392J
R	999				RS1/10S223J

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	601	724			CKSQYB222K50
C	606				CEA220M6R3LS
C	608				CEALNP220M16
C	609				CKSQYB472K50
C	610				CCSQCH221J50
C	613				CKSQYB333K25
C	618				CKSQYB272K50
C	623				CKSQYB222K50
C	627	877 878			CCSQCH220J50
C	628	716			CCSQCH470J50
C	653				CKSYB224K25
C	655				CCSQSL681J50
C	657				CKSQYB393K25
C	661	666	220 μ F/10V		CCH1015
C	663				CKSYB334K25
C	689				CKSYB334K25
C	704	705			CCSQCH090D50
C	706	964 965 966			CEA470M16LS
C	707	708			CKSQYB561K50
C	709				CCDSL471J50
C	752				CEA6R8M35LS
C	753	972			CKSQYB471K50
C	754		Trimmer		CCL1017
C	755				CCSQCH150J50
C	762				CKSQYB102K50
C	874	978			CEA100M16LS2
C	961		1000 μ F/16V		CCH1003
C	962				CEA010M50LS2
C	963				CEA0R1M50LS2
C	980				CEA330M10LS

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	351	710 973			CEA101M6R3LS
C	352	505 611 652 662 676 678 751			CKSQYB103K50
C	353	654			CKSQYB333K25
C	354				CASA100M6R3
C	355	522 523 526 534 625 626			CKSQYB103K50
C	356				CKSQYB332K50
C	357	360 361 614 630 651 702 703 714 715			CKSYB224K25
C	358	607 650 757 761 763			CKSQYB473K25
C	370	373 879 880 881 882			CCSQCH220J50
C	371	509 615			CKSQYB102K50
C	372				CCSQCH150J50
C	451	452 616			CEA220M16LS
C	455	456 617 863 864			CEA4R7M35LS
C	457	458 536 537 538 861 862 865 868			CCSQCH330J50
C	459	460 873 967 968 969 976			CEA101M10LS
C	461	462 659 759 853 854 855 856 859 860			CEA100M16LS2
C	501	502			CCSQCH270J50
C	503	510 511 528 655 675 677 974 977 979			CKSQYB473K25
C	504				CKSQYB561K50
C	506	621			CEALNP4R7M16
C	512				CEA470M16LS
C	517	518 524 605 713 758 760 764			CKSQYB104K25
C	519	525 612 620 656 701 971			CKSQYB104K25
C	520	521 629			CKSQYB223K50
C	527	529			CCSQSL101J50
C	535	869 872			CCSQCH330J50

CD Tuner Unit (DEH-710/ES, DEH-660/UC, DEH-630/US, DEH-610/ES)

CD Tuner Unit	DEH-770/UC DEH-85/US DEH-760/UC	DEH-710/ES	DEH-660/UC	DEH-630/US	DEH-610/ES
IC851	M5218FP	M5218FP	M5218FP	.....	.....
Q761, 762	2SB1238	2SB1238	2SB1238	.....	.....
Q763, 764, 765	UN2211	UN2211	UN2211	.....	.....
Q767	UN2211	UN2211	UN2211	.....	.....
Q848, 849	DTC323TK	DTC323TK	DTC323TK	.....	.....
D457	MA151WA-MN	.....	.....	.....	.....
R465	RS1/10S103J	.....	.....	.....	.....
R466	.....	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J
R747, 749	RS1/10S103J	RS1/10S103J	RS1/10S103J	.....	.....
R748, 750	RS1/10S562J	RS1/10S562J	RS1/10S562J	.....	.....
R772	.....	RS1/10S302J	.....	.....	RS1/10S302J
R773	RS1/10S0R0J	RS1/10S511J	RS1/10S0R0J	RS1/10S0R0J	RS1/10S511J
R774	RS1/10S0R0J	RS1/10S0R0J	RS1/10S302J	RS1/10S302J	RS1/10S302J
R775	.....	.....	RS1/10S752J	RS1/10S511J	RS1/10S511J
R851, 852	RS1/10S432J	RS1/10S432J	RS1/10S432J	.....	.....
R853, 854, 855	RS1/10S223J	RS1/10S223J	RS1/10S223J	.....	.....
R856	RS1/10S223J	RS1/10S223J	RS1/10S223J	.....	.....
R877, 878	RS1/10S102J	RS1/10S102J	RS1/10S102J	.....	.....
C859, 860	CEA100M16LS2	CEA100M16LS2	CEA100M16LS2	.....	.....
C861, 862	CCSQCH330J50	CCSQCH330J50	CCSQCH330J50	.....	.....
C881, 882	CCSQCH220J50	CCSQCH220J50	CCSQCH220J50	.....	.....
C709	CCDSL471J50	.....	CCDSL471J50	CCDSL471J50	.....

Unit Number :

Unit Name : CD Tuner Unit (DEH-770SDK/WG)

Mark ===== Circuit Symbol & No. === Part Name Part No.

MISCELLANEOUS

Mark ===== Circuit Symbol & No. === Part Name Part No.

IC 351	.....	CXA1081Q	.....
IC 451 853	.....	M5218FP	.....
IC 452	.....	CWM1213	.....
IC 501	.....	LC7218M	.....
IC 502	.....	KHA172	.....
IC 601	.....	CXA1082BQ	.....
IC 651	.....	AN8377N	.....
IC 655 657 662 851 852	.....	M5218FP	.....
IC 668 669	.....	LA6501-FA	.....
IC 701	.....	CXD1167Q	.....
IC 703	.....	TC9237F	.....
IC 704	.....	TA2009F	.....
IC 751	.....	PD4306	.....
IC 752	.....	M51955AFP	.....
IC 753	.....	M54546AL	.....
IC 961	.....	PA2018	.....
Q 351	.....	2SB1243	.....
Q 352 758 759 760 766	Chip Transistor	UN2211	.....
Q 451 505 601 705	Chip Transistor	UN2211	.....
Q 453 454 848 849	Chip Transistor	DTC323TK	.....

Q 455 652 752	Chip Transistor	UN2111
Q 502	Chip Transistor	2SC3098
Q 503 504 514 515 516	517 Chip Transistor	2SC2712
Q 508	Chip Transistor	UN2212
Q 509	Chip Transistor	2SC3295
Q 510 513	Chip Transistor	2SC2712
Q 602 603	Chip Transistor	2SD1048
Q 651	Chip Transistor	2SD1760FS
Q 653	Chip Transistor	2SD601A
Q 751	.....	2SD1859
Q 753	Chip Transistor	2SD601A
Q 754 855 967	Chip Transistor	UN2111
Q 755 756 757 761 762	.....	2SB1238
Q 763 764 765 767 968	Chip Transistor	UN2211
Q 851 852 853 854	Chip Transistor	DTC323TK
Q 857	Chip Transistor	2SB709
Q 965	.....	2SD1684
D 451 452 853	Chip Diode	MA151WK-MT
D 453 454	Chip Diode	MA3047H
D 455	Chip Diode	MA151WA-MN
D 456 851	Chip Diode	MA151WA-MN
D 501 502 504	Chip Diode	MA151WK-MT
D 503 753 758 760 762	Chip Diode	MA153-MC
D 652	.....	RD11JSB1
D 653 754 964 965	.....	ERA15-02VH

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
D	661	662			HZS2ALL
D	751	752 757 759		Chip Diode	MA153-MC
D	755				RD6R8JSB1
D	963	970			RD5R6JSB2
L	501	752		Inductor 0.33 μ H	CTF1082
L	502	701		Inductor 0.33 μ H	CTF1082
L	751	961		Ferri-Inductor	LAU150K
L	962			Inductor 33 μ H	CTF1081
TH	351			Thermister	CCX1006
TH	751			Thermister	CCX1007
BP	401			Buzzer	CPV1010
X	501			Crystal Resonator	CSS1030
X	502			Ceramic Resonator	CSS1061
X	701			Crystal Resonator	CSS1052
X	751			Crystal Resonator	CSS1023
VR	604			Semi-fixed 2.2K Ω (B)	CCP1015
CR	352			Compsite Unit	CWW1317
				FM/AM Tuner Unit	

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	334	461 462 522 541 656 661 670 695 703		RS1/10S103J	
R	341			RD1/4PS221JL	
R	344	511 514 515 636 643 726 727 728 729		RS1/10S473J	
R	345	505 506 507 512 533 534 542 704		RS1/10S472J	
R	351	352		RD1/4PS110JL	
R	353	381 776 867 868 964		RS1/10S102J	
R	354	378 451 452 518 548		RS1/10S153J	
R	355			RS1/10S113J	
R	356	357 517 669		RS1/10S563J	
R	358	359		RS1/10S563J	
R	360	608		RS1/10S823J	
R	361	383		RS1/10S823J	
R	362			RS1/10S564J	
R	363			RS1/10S223J	
R	364	365 618		RS1/10S105J	
R	366	377 738 740 748 750		RS1/10S562J	
R	367	673 697 753 761 788 793		RS1/10S473J	
R	379			RS1/10S332J	
R	380	616 617 625		RS1/10S203J	
R	382	667		RS1/10S363J	
R	384	540 630		RS1/10S273J	
R	453	530 532 536		RS1/10S0R0J	
R	455	456 457 458 658 659 711 712 714 715		RS1/10S102J	
R	459	460		RS1/10S152J	
R	463	464 520 535 550 765 767 769 771 787		RS1/10S222J	
R	466			RS1/10S0R0J	
R	469	501 502 503 504 509 528 531 538 539		RS1/10S222J	
R	470	471 622 662 691 692 737 739 745 746		RS1/10S103J	
R	508	523 796		RS1/10S474J	
R	510			RS1/10S221J	
R	516	609 614 619 627		RS1/10S104J	
R	519			RS1/10S182J	
R	524	871		RS1/10S122J	
R	525	784 883 884		RS1/10S472J	
R	526			RS1/10S664J	
R	527	529 853 854 855 856 855 866 869 870		RS1/10S223J	
R	543			RS1/10S470J	
R	544	546 601 602		RS1/10S101J	
R	545			RS1/10S182J	
R	547	779		RS1/10S821J	

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	549			RS1/10S123J	
R	606	623		RS1/10S224J	
R	607			RS1/10S683J	
R	610	655		RS1/10S113J	
R	611	863 864		RS1/10S432J	
R	612			RS1/10S623J	
R	613			RS1/10S624J	
R	620			RS1/10S332J	
R	621			RS1/10S184J	
R	624			RS1/10S393J	
R	628	645 775		RS1/10S183J	
R	634			RS1/10S474J	
R	635	694		RS1/10S822J	
R	637	690		RS1/10S272J	
R	644			RS1/10S662J	
R	651	653		RS1/10S163J	
R	652			RS1/10S363J	
R	654			RS1/10S150J	
R	657	660		RS1/10S272J	
R	665			RS1/10S562J	
R	666			RS1/10S393J	
R	668			RS1/10S183J	
R	671			RS1/10S105J	
R	672			RS1/10S364J	
R	674			RS1/10S133J	
R	676			RS1/10S201J	
R	677			RS1/10S201J	
R	693	696		RS1/10S586J	
R	709	741 792 872		RS1/10S103J	
R	718	719 877 878		RS1/10S102J	
R	730	732 733 734 735 736 791 899		RS1/10S473J	
R	742	743 744 754 756 758		RS1/8S182J	
R	747	749 762 763		RS1/10S103J	
R	751	752		RS1/10S151J	
R	755	757 759 795 797 798 799		RD1/4PS103JL	
R	760			RS1/10S683J	
R	764	766 768 770 785		RS1/10S104J	
R	772	774		RS1/10S302J	
R	773	780 781 782 783 789 790		RS1/10S222J	
R	778			RS1/10S752J	
R	851	852 873 874 897 898		RS1/10S432J	
R	875	876 879 880		RS1/10S622J	
R	881	882		RS1/10S392J	
R	999			RS1/10S223J	

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	351	710 973		CEA101M6R3LS	
C	352	505 611 652 662 676 678 751		CKSQYB103K50	
C	353	654		CKSQYB333K25	
C	354			CASA100M6R3	
C	355	513 522 523 526 534 625 626		CKSQYB103K50	
C	356			CKSQYB332K50	
C	357	360 361 614 630 651 702 703 714 715		CKSQYB222K25	
C	358	607 650 757 761 763		CKSQYB473K25	
C	370	373 879 880 881 882		CCSQCH220J50	
C	371	509 615		CKSQYB102K50	
C	372			CCSQCH150J50	
C	451	452 512 616		CEA220M16LS	
C	453	454 455 456 617 863 864		CEA4R7M35LS	
C	457	458 536 537 538 861 862 865 868		CCSQCH330J50	
C	459	460 873 967 968 969 976		CEA101M10LS	

Mark	=====	Circuit Symbol & No.								====	Part Name	Part No.	Mark	=====	Circuit Symbol & No.								====	Part Name	Part No.
C	461	462	659	759	853	854	855	856	859	860	CEA100M16LS2	C	623									CKSQYB222K50			
C	501	502									CCSQCH270J50	C	627	877	878							CCSQCH220J50			
C	503	510	511	528	665	675	677	974	977	979	CKSQYB473K25	C	628	716								CCSQCH470J50			
C	504										CKSQYB561K50														
C	506	621									CEALNP4R7M16	C	653									CKSYB224K25			
												C	655									CCSQSL681J50			
C	507										CSZSR47M20	C	657									CKSQYB393K25			
C	515										CKSQYB683K25	C	661	666		220 μ F/10V						CCH1015			
C	516	706	964	965	966						CEA470M16LS	C	663									CKSYB334K25			
C	517	518	524	605	713	758	760	764			CKSQYB104K25														
C	519	525	612	620	656	701	971				CKSQYB104K25	C	689									CKSYB334K25			
												C	704	705								CCSQCH090D50			
C	520	521	629								CKSQYB223K50	C	707	708								CKSQYB561K50			
C	527	529									CCSQSL101J50	C	752									CEA6R8M35LS			
C	530										CSZSR33M35	C	753	972								CKSQYB471K50			
C	533										CSZST4R7M35														
C	535	869	872								CCSQCH330J50	C	755	756								CCSQCH300J50			
												C	762									CKSQYB102K50			
C	601	724									CKSQYB222K50	C	874	978								CEA100M16LS2			
C	606										CEA220M6R3LS	C	961			1000 μ F/16V						CCH1003			
C	608										CEALNP220M16	C	962									CEA010M50LS2			
C	609										CKSQYB472K50														
C	610										CCSQCH221J50	C	963									CEA0R1M50LS2			
												C	980									CEA330M10LS			
C	613										CKSQYB333K25														
C	618										CKSQYB272K50														

CD Tuner Unit (DEH-770/EW, DEH-760SDK/WG, DEH-760/EW)

CD Tuner Unit	DEH-770SDK/WG	DEH-760SDK/WG	DEH-770/EW	DEH-760/EW
IC502	KHA172	KHA172	.....	.....
IC851	M5218FP	.....	M5218FP	.....
Q453, 454	DTC323TK	DTC323TK	.....	.....
Q455	UN2111	UN2111	.....	.....
Q514	2SC2712	2SC2712	.....	.....
Q848, 849	DTC323TK	.....	DTC323TK	.....
D455	MA151WA-MN	MA151WA-MN	.....	.....
D456	MA151WA-MN	MA151WA-MN	.....	.....
X502	CS51061	CS51061	.....	.....
R449, 450	.....	.....	RS1/10S0R0J	RS1/10S0R0J
R453	RS1/10S0R0J	RS1/10S0R0J	.....	.....
R470, 471	RS1/10S103J	RS1/10S103J	.....	.....
R514	RS1/10S473J	RS1/10S473J	.....	.....
R526	RS1/10S684J	RS1/10S684J	.....	.....
R528	RS1/10S222J	RS1/10S222J	.....	.....
R773	RS1/10S222J	RS1/10S222J	RS1/10S122J	RS1/10S122J
R851, 852	RS1/10S432J	.....	RS1/10S432J	.....
R853, 854, 855, 856	RS1/10S223J	.....	RS1/10S223J	.....
R877, 878	RS1/10S102J	.....	RS1/10S102J	.....
C453, 454	CEA4R7M35LS	CEA4R7M35LS	.....	.....
C512	CEA220M16LS	CEA220M16LS	CEA470M16LS	CEA470M16LS
C513	CKSQYB103K50	CKSQYB103K50	.....	.....
C515	CKSQYB683K25	CKSQYB683K25	.....	.....
C516	CEA470M16LS	CEA470M16LS	.....	.....
C529	CCSQSL101J50	CCSQSL101J50	CCSQSL221J50	CCSQSL221J50
C530	CSZSR33M35	CSZSR33M35	.....	.....
C533	CSZST4R7M35	CSZST4R7M35	.....	.....
C859, 860	CEA100M16LS2	.....	CEA100M16LS2	.....
C861, 862	CCSQCH330J50	CCSQCH330J50
C881, 882	CCSQCH220J50	CCSQCH220J50



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Service Manual

**SERVICE GUIDE
ORDER NO.
CRT 1161**

CD MECHANISM UNIT

CX-173

- This service manual is a description of the CD mechanism found in the model numbers listed in the table below.
- When performing repairs use this manual together with the specific manual for the model under repair.

Model	Service Manual
DEH-66/UC	CRT1166
DEH-66SDK/WG	
DEH-66/EW	
DEH-66/EI	

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PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
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1. DISASSEMBLY

• Disassembly of the Carriage Unit

Note: There may be times when the names of parts used in this manual are not the same as those used in the lists accompanying the Exploded View. If a different name is used here, the part name given in the Exploded View is also provided in parentheses ().

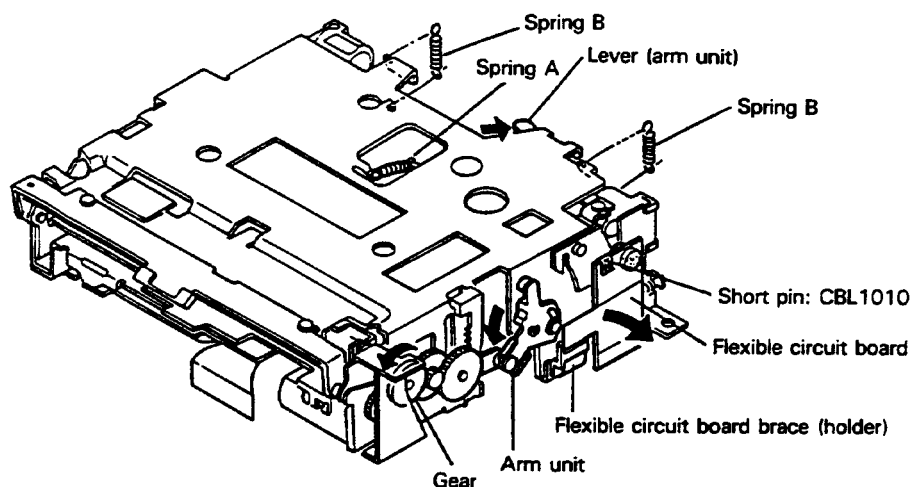


Fig. 1

1. Put the mechanism unit into a loading complete state. (Move the lever back and rotate the gear while pressing down lightly on the arm unit. Rotate the gear until the three carriage unit shafts are free and the unit is supported by the four damper units.
2. Remove Spring A and two Springs B.
3. Remove the flexible circuit board from the flexible circuit board brace.

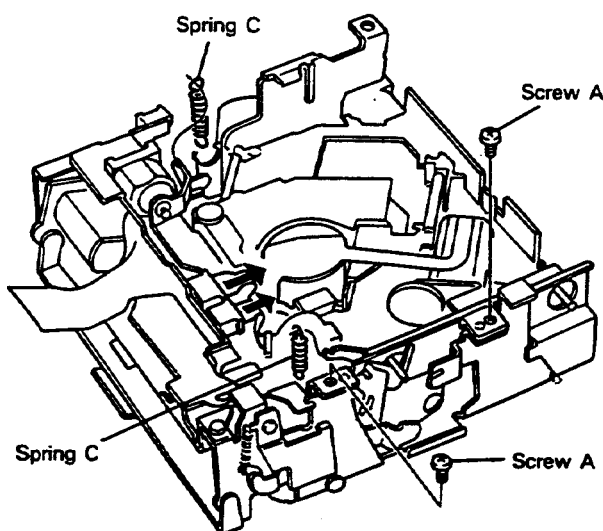


Fig. 2

4. Turn the mechanism unit upside down.
5. Remove the two Springs C.
6. Remove the two flexible circuit boards from their connectors.
7. Remove the two Screws A.

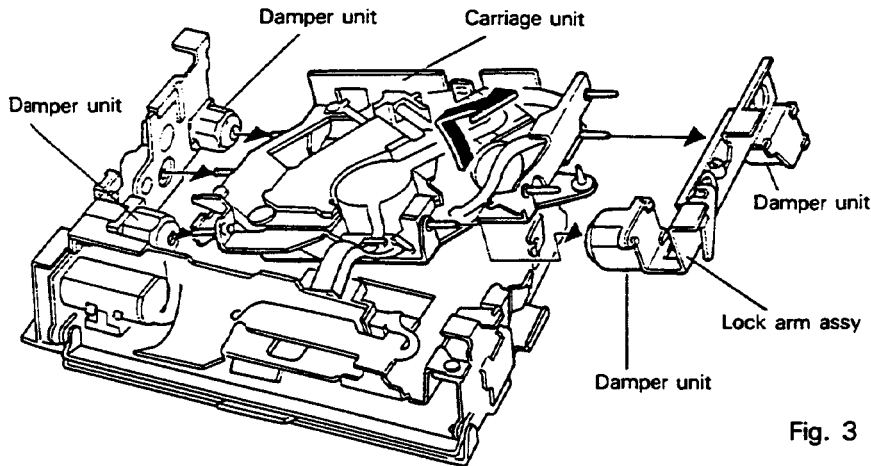


Fig. 3

8. Lift the lock arm assembly and then pull out the carriage unit.

9. Remove the carriage unit from the lock arm assembly.

Note: The damper units are lined with a thin rubber film. Be careful not to damage this when disassembling.

● Disassembly of the Carriage Motor Unit

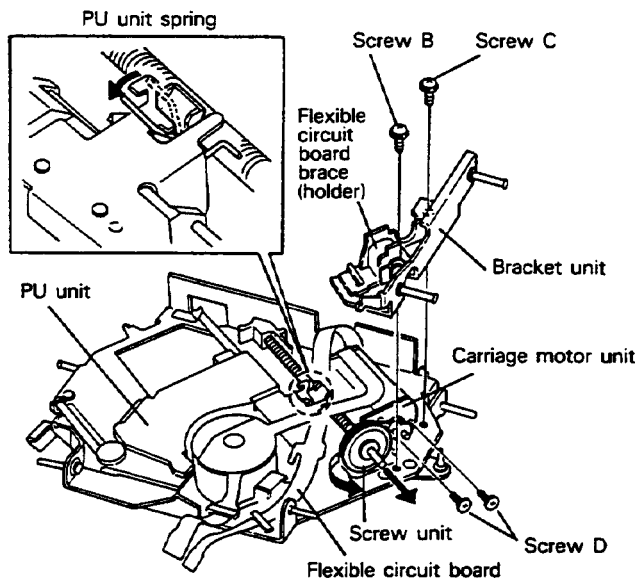


Fig. 4

1. After removing the Screw B and Screw C, remove the bracket unit. At this time remove the flexible circuit board from the flexible circuit board brace.
2. Remove the belt.
3. Cock the PU unit spring as shown in Fig. 4 and then move the PU unit to its outermost position. (Cocking the spring disengages the screw unit so that the PU unit can be moved by hand from above.)

4. Pull the screw unit out of the assembly.
5. Remove the two Screws D and then the carriage motor unit.

Note: When reinstalling the carriage motor unit, tighten Screw D and seal it.

• Disassembly of the PU Unit

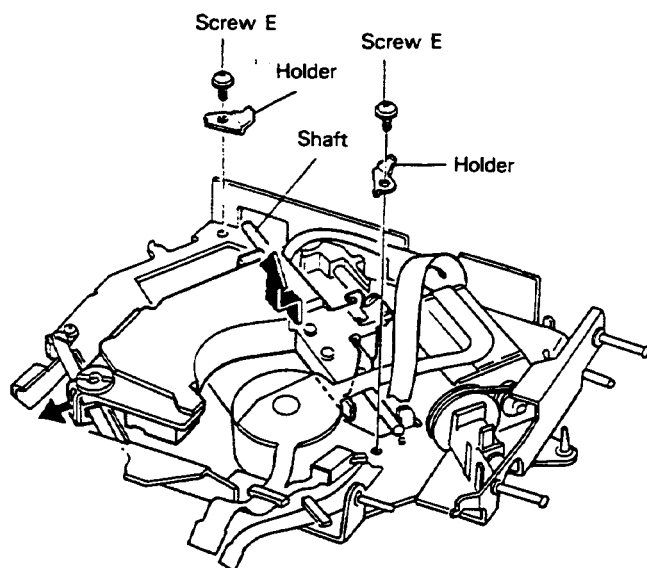


Fig. 5

1. Cock the PU unit spring as shown in Fig. 4. Move the PU unit to the center of the shaft for easy removal.
2. Remove the two Screws E and then the holders.
3. Remove the PU unit, lifting it from the shaft side where the holders have been removed and being careful not to catch the shaft on the opposite side.
4. Pull the shaft out of the PU unit.

• Disassembly of the Spindle Motor Unit

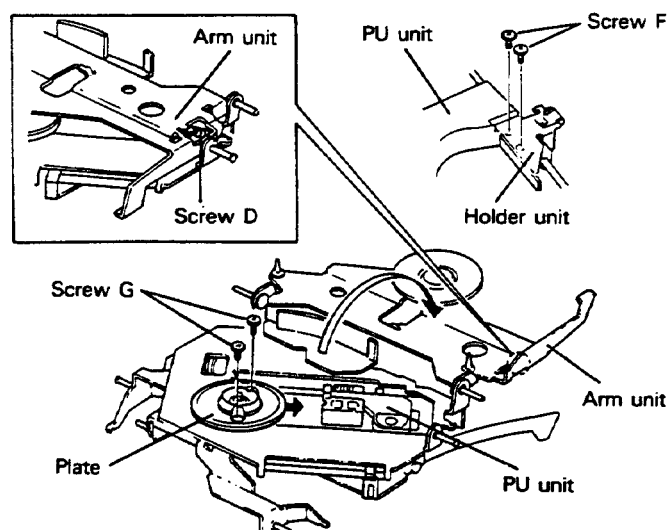


Fig. 6

1. Remove the two Screws F and then remove the holder unit from the PU unit.
2. Cock the PU unit spring as shown in Fig. 4 and move the PU unit to its outermost position.
3. Turn the whole carriage unit right side up.
4. Remove Screw D and turn the arm unit upside down.
5. Turn the spindle motor plate so that the holes on the plate are at the position of the screws underneath.
6. Remove the two Screws G.
Note: When reinstalling the spindle motor unit, tighten the Screws G and seal them.
7. Slide the spindle motor unit onto its side and remove it.

● Disassembly of the Loading Motor Unit

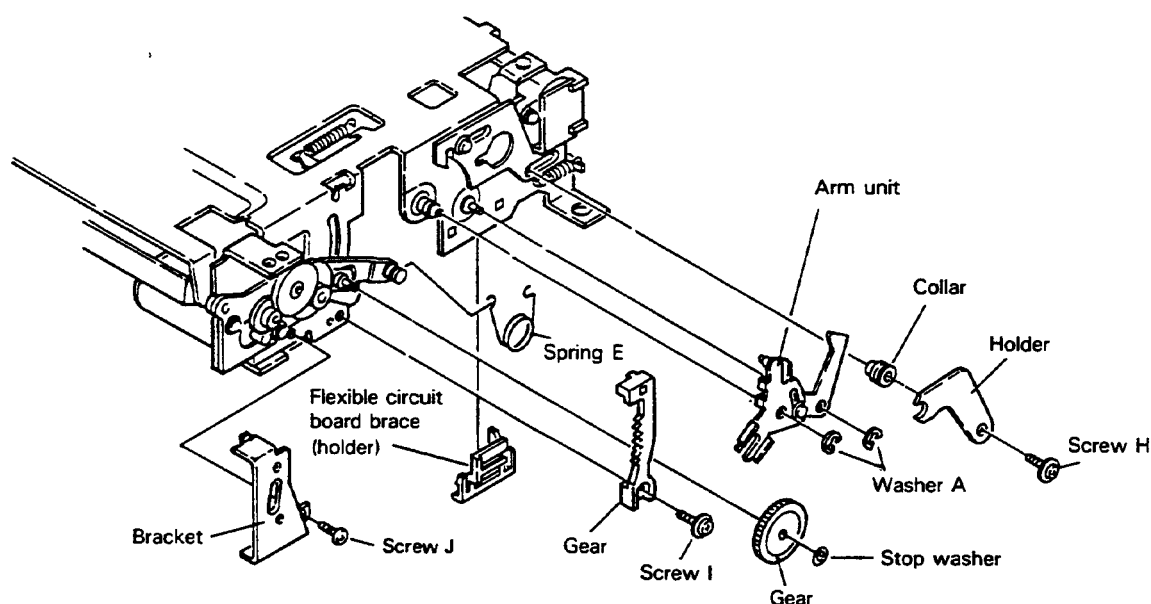
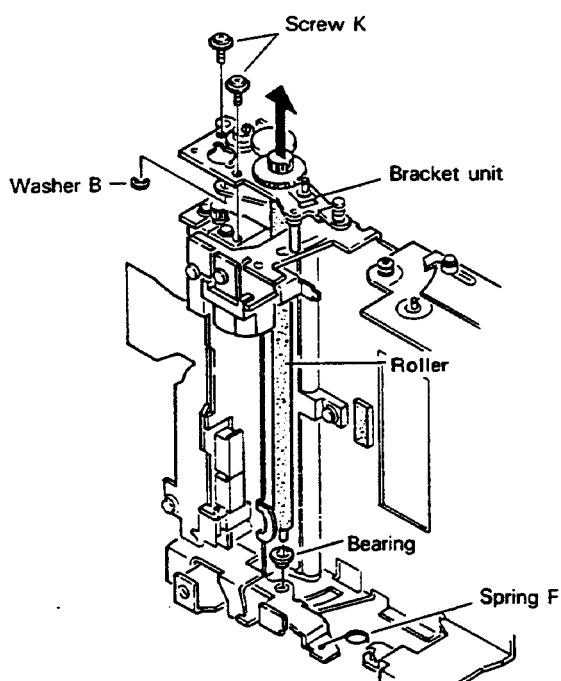


Fig. 7

1. Remove the carriage unit.
(Refer to the previous section entitled, "Disassembly of the Carriage Unit.")
2. Remove the flexible circuit board brace.
3. Remove Screw H and then the holder.
Note: When Screw H is removed, the collar will also come free. Be sure not to lose it.

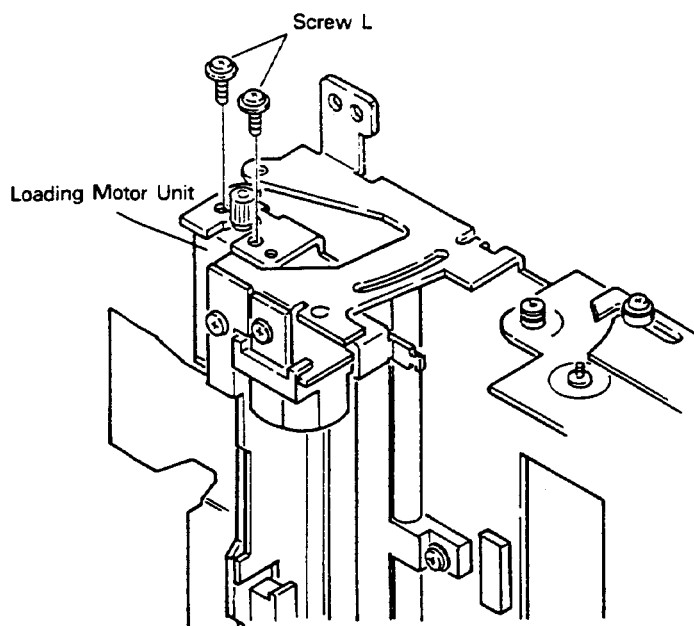
4. Remove the Screw E.
5. Remove the two Washers A and then the arm unit.
6. Remove the stop washer and then the gear.
7. Remove Screw I and then the gear.
8. Remove Screw J and then the bracket.



9. Remove Spring F.
10. Remove washer B.
11. Remove the two Screws K and then pull out the bracket unit.

Note: The bearing at the tip of the roller will also come loose. Be careful not to lose it.

Fig. 8



12. Remove the two Screws L and then the loading motor unit.

Fig. 9

2. MECHANISM DESCRIPTION

• Loading Operation

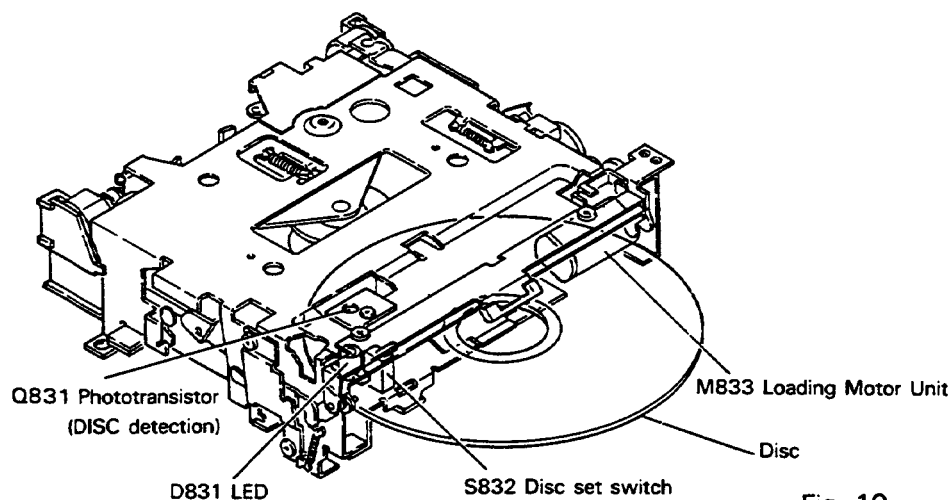


Fig. 10

1. When a disc is inserted into the unit, it enters between the LED and the phototransistor with the result that the light from the LED to the phototransistor is blocked.
2. When the phototransistor detects a disc presence in the unit, the loading motor begins to rotate and loading begins.
3. When the loading motor rotates, the roller is turned and the disc is moved into the unit. (Fig. 11)

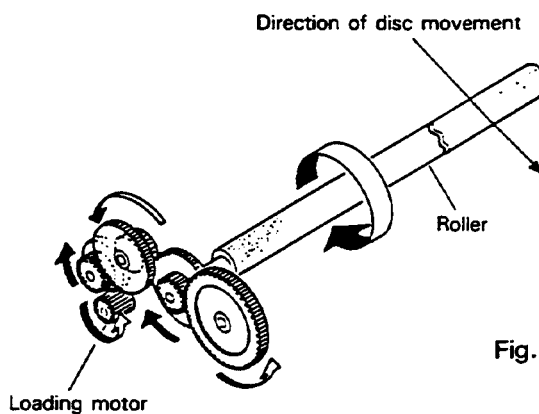


Fig. 11

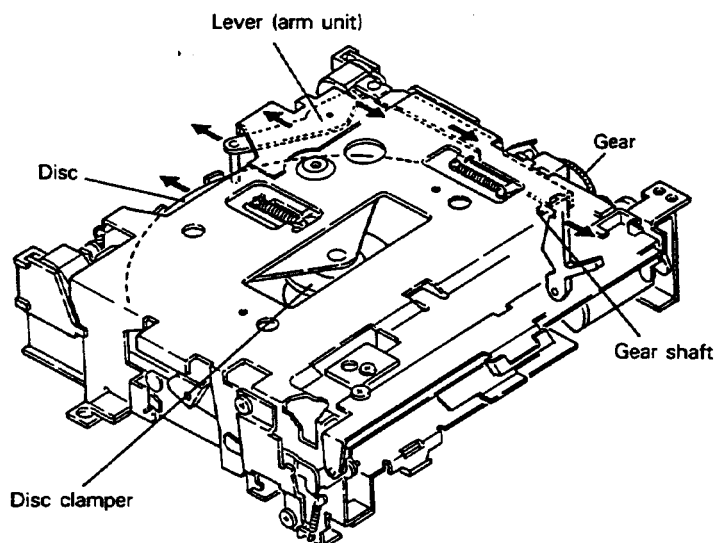


Fig. 12

4. When the disc pushes on the lever, the gear shaft lock is released. The gear meshes with another internal toothed gear and is lowered. (See Figs. 12, 13)
5. The action of the gear shaft moving down lowers the disc clamp and the disc is held in place.
6. As the gear is lowered when it meshes with the internal toothed gear, the gear unit also is lowered and the disc set switch pressed.

7. At the same time, the disc door is lowered and the disc insert door is blocked to prevent the introduction of another disc.

The three shafts of the carriage unit are in a free mode and the carriage unit is in an anti-vibration mode supported by the four damper units. (Fig. 14)

When the disc set switch is turned on, loading motor rotation stops and the loading operation is complete.

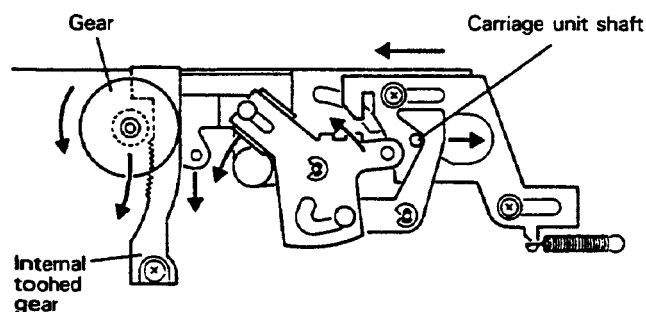


Fig. 13

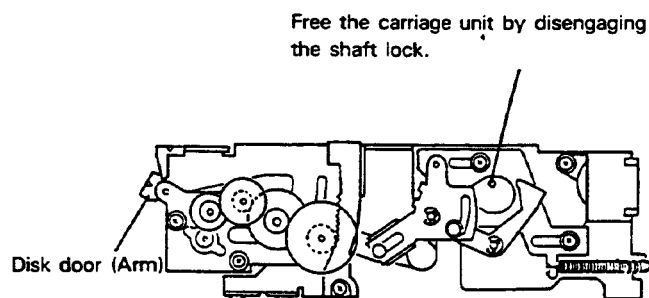
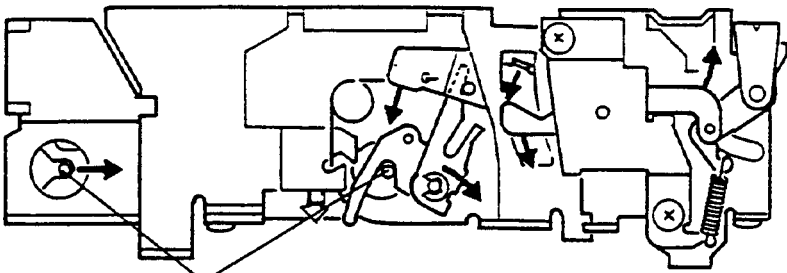


Fig. 14

(view of reverse side)



Free the carriage unit by disengaging the shaft lock.

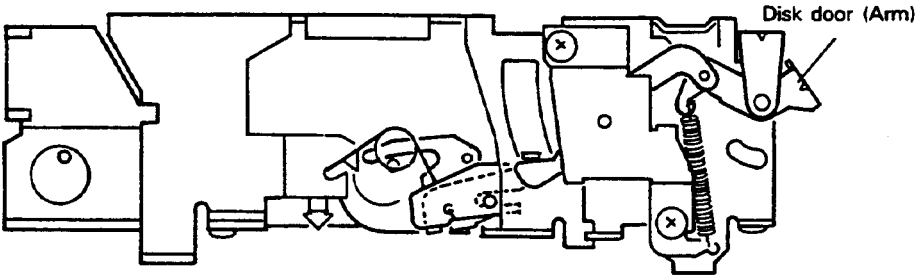
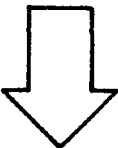


Fig. 15